MOBILE RADIOTELEPHONE
MODEL STORNOPHONE 700

TYPE CQM 713a
TYPE CQM 714a

146 - 174 MHz

Storno

MOBILE RADIOTELEPHONE
MODEL STORNOPHONE 700

TYPE CQM713a
TYPE CQM714a

146 - 174 MHz

CONTENTS

Service Coordination
8-79
2nd Edition

Storno

CQM710a

Unless otherwise stated, specifications are based on the measuring methods prescribed in EIA publications RS152A and RS204. Storno reserves the right to change the listed specifications without notice. Figures given in brackets are guaranteed values.

GENERAL SPECIFICATIONS

Frequency Range

146 - 174 MHz

Min. Channel Separation

CQM713: 20 kHz or 25 kHz
CQM714: 12.5 kHz

Max. Frequency Deviation

CQM713: ± 4 kHz or ± 5 kHz
CQM714: ± 2.5 kHz

Frequency Stability

Meets government specifications

Max. VHF Bandwidth

1 MHz

Number of Channels

Max. 6

Antenna Impedance

50 Ω

Temperature Range

Operating range: -25°C to +50°C
Functioning range: -30°C to +60°C

Dimensions

Locally controlled version: 180 x 190 x 68 mm
Extended local control: 180 x 160 x 68 mm
Control unit CB700: 118 x 65 x 55 mm

Weight

Locally controlled version: 2.1 Kg
Extended local control: 1.9 Kg
Control unit CB700: 0.2 Kg

TRANSMITTER SPECIFICATIONS

RF Power Output

CQM710a: 25 W
CQM710a-6: 6 W

Type of Modulation

Phase

AF Response

6 dB/octave preemphasis

CQM713: 300 - 3000 Hz
+0/-1.5 dB (+0.5/-3 dB)

CQM714: 300 - 2500 Hz
+0/-1.5 dB (+0.5/-3 dB)

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Modulation Distortion (measured with deemphasis)

3% (7%)

Modulation Sensitivity

110 mV e.m.f. (600 Ω) ± 3 dB

AF Input Impedance

560 Ω

Adjacent Channel Selectivity

Attenuated to meet government specifications

FM Hum and Noise (measured without deemphasis)

CQM713: 50 dB (40 dB)
CQM714: 45 dB (38 dB)

Spurious Radiation (FTZ)

Less than 0.2 µW

Harmonic Radiation (FTZ)

Less than 0.2 µW (2 µW)

RECEIVER SPECIFICATIONS

Sensitivity e.m.f. for 12 dB SINAD EIA

0.4 µV (0.6 µV)

Squelch

Electronic, adjustable

Adjacent Channel Selectivity EIA

CQM713: 85 dB (80 dB)
CQM714: 80 dB (75 dB)

Adjacent Channel Selectivity FTZ, MTP

CQM713: 85 dB (80 dB)
CQM714: 80 dB (75 dB)

Intermodulation Attenuation EIA

CQM713: 75 dB (70 dB)
CQM714: 75 dB (70 dB)

Intermodulation Attenuation FTZ, MTP

CQM713: 70 dB (66 dB)
CQM714: 75 dB (70 dB)

Blocking MPT

300 mV (100 mV)

Spurious Radiation

Less than 0.5 n W (2 nW)

Spurious Response Attenuation

90 dB (80 dB)

AF Output Power EIA

4 W (load 4 Ω)

AF Distortion

CQM713: 3% (7%)
CQM714: 4% (8%)

AF Response

CQM713: -6 dB/octave from 300 - 3000 Hz
+0/-1.5 dB (+0.5/-3 dB)

CQM714: -6 dB/octave from 300 - 2500 Hz
+0/- 2 dB (+0.5 dB/-3 dB)

Hum and Noise, squelched

70 dB (60 dB)

Hum and Noise, unsquelched

CQM713: 50 dB (45 dB)
CQM714: 45 dB (40 dB)

POWER SUPPLY SPECIFICATIONS

CURRENT CONSUMPTION AT 13.6 V

Stand by: 180 mA (250 mA).
Receive, 2W AF output: 0.5 A (0.6 A).
Transmit: CQM710a: 3.6 A (4.6 A).
CQM710a-6: 1.3 A (2.0 A).

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CQM710a
GENERAL DESCRIPTION

Introduction

The Stornophone CQM710a radiotelephone is a mobile transmitter/receiver for simplex operated FM radio communication on the 146 to 174 MHz frequency band.

The CQM710 comes in a choice of channel spacings:

CQM713 for 20 or 25 kHz channel spacing
CQM714 for 12.5 kHz channel spacing

For both versions there is a choice of 6 or 25 W RF output power.

CQM710a - 6: 6 W RF output power
CQM710a : 25 W RF output power.

There are also two mechanically different systems available, local control and extended local control. Local control applies to the dashboard-mounted model with built-in loudspeaker, which is operated by controls on the front panel of the radio cabinet. Extended local control applies to the model which is operated from a dash-mounted control unit connecting to the radiotelephone proper via a cable and multiconnector. The radio chassis is then placed elsewhere in the vehicle. A separate loudspeaker must also be installed with the latter model.

Each radio set can be equipped for either single or multichannel service. Multichannel sets will have a channel selector arranged as a row of push buttons on the control panel, accomodating up to 6 channels. Choice of channels (frequencies) must naturally take into account the RF bandwidth of the radiotelephone, which is 1 MHz.

Construction

The radio chassis slides into the cabinet from the front and is held in place by screws from the rear of the cabinet. The chassis consists of two circuit panels hinged onto the front control panel. When separated, the two chassis halves open out like a book.

The upper circuit panel, designated RF714, contains all the circuits which are dependent upon channel frequencies. These are:

antenna filters
receiver VHF circuits
crystal selector unit, where included
exciter
transmitter power output amplifier.

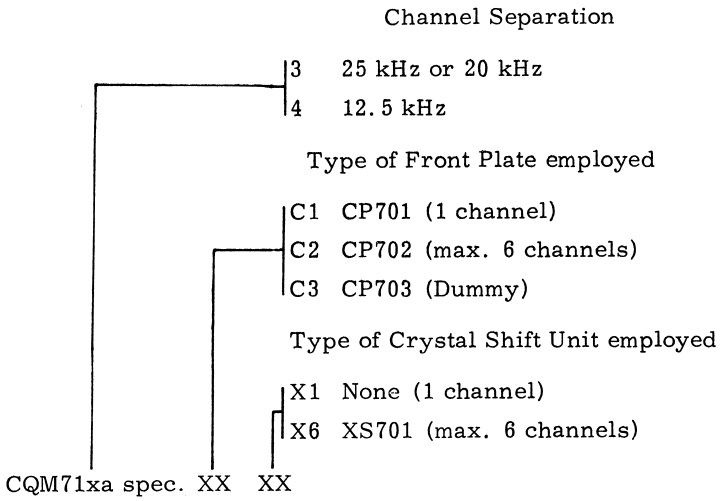
The lower circuit panel, designated BA703, contains those units common to all the frequency bands within the CQM710 programme:

audio amplifier
intermediate frequency amplifier
squelch circuit
voltage regulators
tone equipment, where included

The solid-state circuitry is built up as functional module units for ease in servicing.

A type plate located on the radio cabinet states the type designation of the radiotelephone, showing the service for which it is intended.

Reading the type plate:



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Control Equipment

The locally controlled CQM710 will have one of the following front panels:

CP701 Front panel with controls and built-in speaker. This panel has no channel selector, limiting the equipment to single-channel service.

CP702 Front panel like CP701 with the addition of 6 push buttons for multichannel service.

The CQM710 for extended local control will have a blank front panel with neither controls nor loudspeaker and is designated CP703. One of the following types of control units, intended for dashboard-mounting, must also be installed for extended local control:

CB701 Control unit housed in a cast plastic cabinet and containing operating controls for the radiotelephone. This control unit has no channel selector (single-channel service).

CB702 Control unit similar to CB701, and containing 6 push buttons for the channel selector (multichannel service).

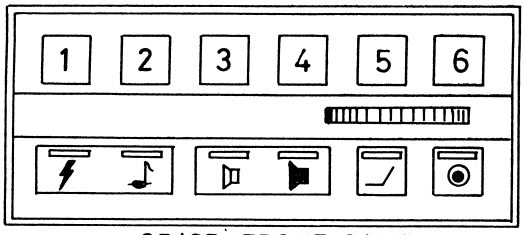
Where more than one RF channel is required (multichannel operation), the radiotelephone must be fitted with one of the following crystal switching units:

XS701 Channel selector unit for a maximum of 6 channels.

XS702 Channel selector unit for a maximum of 4 channels with temperature compensation for operation in extremely cold climates.

Operating Controls

The controls located on the front panel are as shown:



CP/CB FRONT PANEL

Push buttons for channel selection.

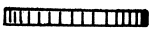
Tone button and lamp indication when the channel is engaged (in equipment with built-in tone transmitters).

Transmit button and transmit indicator lamp (in radiotelephones without built-in tone transmitters).

Button for switching the loudspeaker on and off, provided with a lamp indicating when a tone call is received, (This button is only used in conjunction with tone equipment).

Squelch button for overriding the squelch function.

ON/OFF switch and indicator lamp.



Volume control.

Notice:

For radiotelephones with built-in tone transmitters an external keying device (e.g. a steering column switch or microphone button) must be employed as the transmitter key, since the regular button on the front panel is used for keying the tone transmitter.

Accessories

Accessories available for the CQM710a series radiotelephones are listed in this section. Some of them such as installation materials, antenna and microphone, are necessary in order to install and to operate the equipment.

Microphones

MC701 Fixed microphone with built-in amplifier.

MC702 Fixed microphone with built-in amplifier, transmit button and retainer.

MC703 Fixed microphone for mounting on steering column.

MT701 Handset with built-in amplifier and transmitter keying switch.

All of the above are supplied with cables for termination in a special multiconnector providing connections between accessories and the radio cabinet.

MK701 To bring the microphone into close talk position this mounting kit, consisting of 2 flexible metal tubes (length 20 and 35 cm), is available.

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Antenna

AN19-5 1/4 wavelength whip antenna for the 146 to 174 MHz frequency band. 50 Ω impedance matches Stornophone CQM710a. Base design permits mounting from the outside without damaging the car upholstery.

Installation Kits

The installation of a CQM710a radio set will require some or all of the following installation kits:

MN701 Mounting frame for radio cabinet

CC701 Cable kit containing battery cable and antenna cable necessary for installing the radiotelephone.

MK701 Mounting kit containing connectors for connecting battery, antenna and accessories to the radio cabinet plus fuse box and fuses for installation in series with the battery cables.

MK702 Mounting kit similar to MK701, to be used when installing 25 W transmitters.

For extended local control the distance between control unit and radio set may be increased by inserting:

CC703 Extension cable kit with connectors.

Loudspeakers

When using the extended local control system it is necessary to install an external loudspeaker. The following types are available.

LS701 Loudspeaker enclosed in a plastic housing, complete with cable to be soldered into the accessories connector.

LS702 Weatherproof version of loudspeaker.

External Switches, Relays, etc.

SU701 Transmitter keying device for mounting on steering column.

SU702 Transmitter keying device for dashboard mounting.

SU704 Auto relay for equipment with built in tone receivers, connects to external alarm devices such as auto horn, etc.

Power Supplies

PS701 Power supply for 24 V car battery, any battery polarity.

PS702 Power supply for 24 V car battery negative pole to chassis.

CIRCUIT DESCRIPTION

General

The nominal 12 V supply from the battery is applied to the connector designated "BATT". Start relay in series with a diode across the battery input protects the radiotelephone against incorrect supply polarity. The battery voltage is applied to two 9 V regulators which supply the transmitter and receiver sections, to the receiver audio output amplifier and to the tone equipment, if fitted.

The incoming signal passes through the antenna switching unit to the input of the receiver. The antenna switching is controlled by the stabilized supplies from the transmitter and receiver voltage regulators.

In the single channel edition of CQM710a a crystal controlled oscillator is incorporated in the transmitter section. Similary, a single oscillator is provided in the receiver section.

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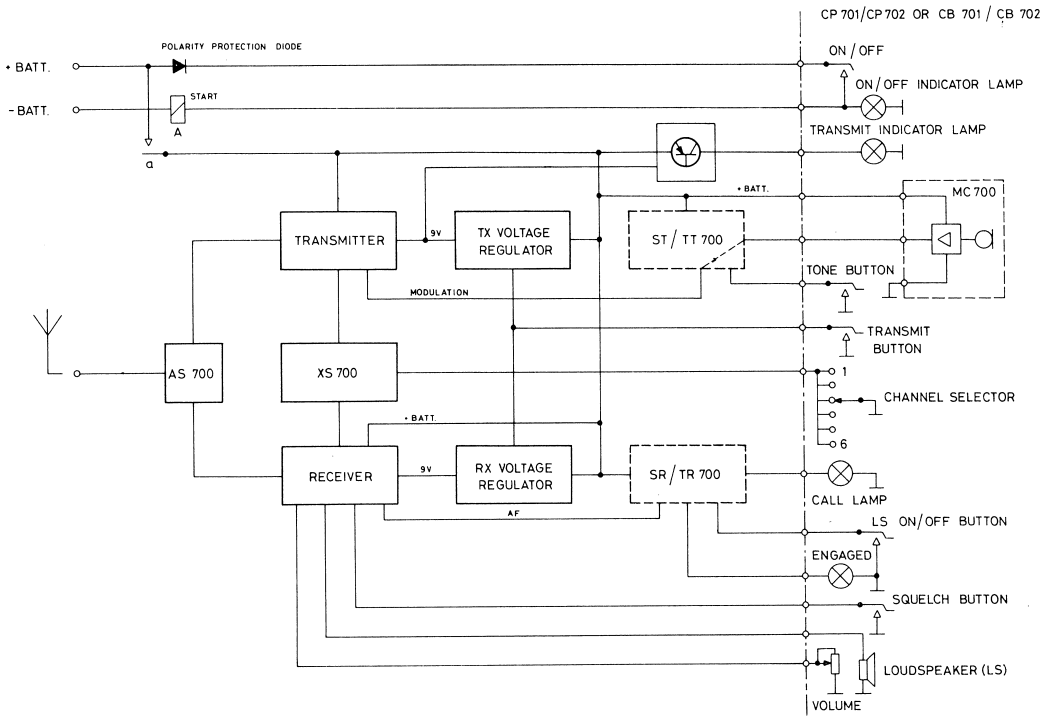
FUNCTIONAL DIAGRAM CQM 700



Channel switching unit XS is fitted in the multi-channel edition of CQM700 and is controlled by the channel selector.

The audio output from the receiver is applied to the loudspeaker (LS). The output level is adjusted by means of the volume control.

The squelch button is provided to override the squelch function of the receiver.

As may be seen from the simplified functional diagram, the receiver output signal may be connected to the tone receiver TR700 used in selective tone calling systems. The tone receiver enables the AF output circuits of the receiver to be switched on and off.

In systems using selective calling, the loudspeaker will normally be switched off using the LS ON/OFF button.
When a tone call, correct for the tone receiver setting, is received, the loudspeaker will be switched on automatically. The tone receiver also controls the "call" and "engaged" lamps indicating that a call has been received or that the radio channel is occupied. These lamps are not used in radiotelephones not fitted with tone receivers.

The modulating signal to the transmitter is derived from the microphone (MC) via the tone generator TT700, if fitted.

During transmission of tone calls, the microphone will be switched off automatically so that the transmitter is modulated by the tone signal from TT700 only.

The transmitter is keyed by depressing the transmit button. This will block the receiver voltage regulator and cancel the blocking of the transmitter voltage regulator. When the transmitter voltage regulator operates, supply voltage is applied to the exciter.

The "transmitter on" condition is indicated by the transmit indicator lamp.

In the radiotelephone fitted with a tone receiver, the transmitter cannot be operated until the loudspeaker has been switched on manually by means of the loudspeaker ON/OFF button.

RECEIVER

The CQM710a receiver is a double conversion superheterodyne using intermediate frequencies of 10.7 MHz and 455 kHz. The high RF sensitivity characteristic of the receiver is provided by a RF amplifier.

Adjacent channel selectivity is obtained by using two bandpass filters: a 10.7 MHz crystal filter and a 455 kHz ceramic filter.

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A maximum of 6 crystal controlled oscillators, one for each channel, can be provided. The oscillators are connected in parallel and channel selection is performed by grounding the negative supply lead of the appropriat· oscillator.

The receiver comprises the following subunits:

Antenna switching unit	AS713
RF amplifier	RA712
Receiver converter with 1st mixer and 1st local oscillator	RC711
Intermediate frequency converter with 10.7 MHz crystal filter, 2nd mixer, 2nd local oscillator, and 455 kHz ceramic filter:	
for 25 and 20 kHz channel spacing	IC703
for 12.5 kHz channel spacing	IC704
455 kHz intermediate frequency amplifier, squelch circuit, AF amplifier, and voltage regulator	CF703
(for other circuits of CF703 see page 6)	
Channel switching unit:	
maximum 6 channels	XS701

Signal Path

From the antenna switching uni the input gnal is passed through the RF amplifi· to the mi·er stage.

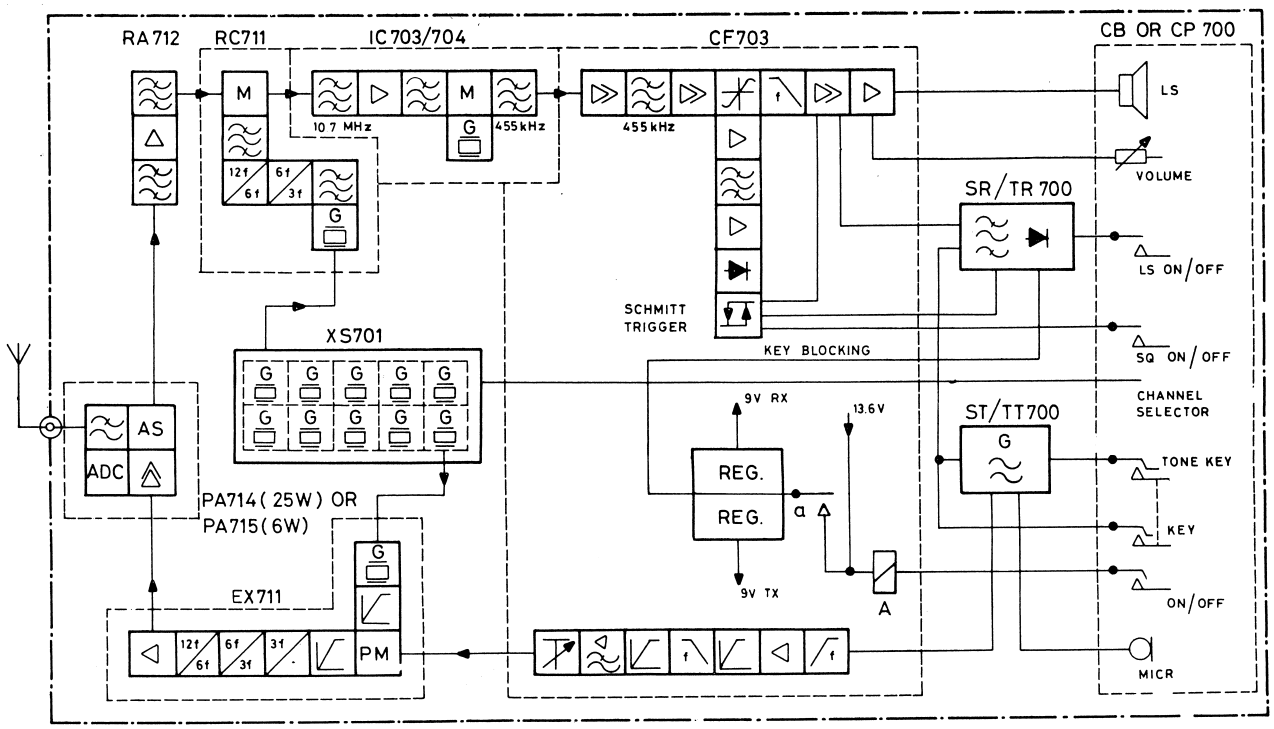
The local oscillator and the received signals are applied to the gate of the FET. The . xer output at 10.7 MHz is taken from the drain circuit.

First Local Oscillator

The local oscillator signal is generated in an oscillator operating on the fundamental frequency of the crystal. The oscillator operates within the frequency range 11.35 MHz to 12.75 MHz, depending on the crystal frequency used.

In the oscillator, the 3rd harmonic of the crystal frequency is selected and applied to a multiplier chain consisting of two doubler stages. The output frequency is thus 12 times the fundamental frequency of the oscillator.

The last doubler stage is followed by a filter consisting of three capacitively coupled tuned circuits. The filter attenuates undesired frequencies generated by the multiplier chain and prevents these from reaching the mixer stage.



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The injection signal is 10.7 MHz below the received signal and is calculated as follows:

$$fx = \frac{f_a - 10.7}{12} \text{ MHz}$$

where fx is the crystal, MHz and f_a is the received signal, MHz.

The receiver converter RC711 includes an oscillator intended for use in single-channel receivers. When more than one channel is required the radiotelephone will be provided with a channel switching unit type XS701 or XS702.

XS701 contains oscillators for five RF channels thus allowing the receiver to be equipped with a maximum of 6 channels.

XS702 is a temperature compensating unit employed where radiotelephones are to work in very low tempetatures. The compensation is provided by heating the crystals when the ambient temperature falls below -5° C approximately.

XS702 contains oscillators for a maximum of 4 channels.

Intermediate Frequency Circuits

From the mixer in RC711 the 10.7 MHz signal passes to the intermediate frequency converter, type IC703 or IC704 depending on the channel separation used, which provides the channel selectivity of the receiver.

The first IF signal passes through the 10.7 MHz crystal filter and is then amplified in a single IF amplifier stage. It is then applied to the transistor in the 2nd mixer stage and converted to the second IF signal of 455 kHz.

The injection signal to the mixer stage is generated by a crystal controlled oscillator whose frequency is normally 455 kHz below 10.7 MHz. In instances where a harmonic of the local oscillator coincides with the frequency of the received signal, a crystal oscillator frequency of 455 kHz above 10.7 MHz is chosen.

In the first case the crystal frequency is:
10.7 MHz - 0.455 MHz = 10.245 MHz

In the second case the crystal frequency is:
10.7 MHz + 0.455 MHz = 11.155 MHz.

The crystal frequency of 11.155 MHz is used when the received frequencies are within the following bands:

152.5 - 154.9 MHz
162.7 - 165.1 MHz
173.0 - 174.9 MHz

The second intermediate frequency signal from the mixer stage proceeds through the 455 kHz ceramic filter in the IC703 or IC704 converter and is then applied to the intermediate frequency amplifier in CF703.

The 455 kHz intermediate frequency amplifier consists of two RC coupled stages followed by a double tuned filter and a three stage integrated circuit amplifier. The last two stages provide the required limiting of the signal.

The amplified and limited signal is then demodulated in a phase detector incorporated in the integrated circuit.

The balanced quadrature (or product) detector also provides efficient rejection of any amplitude modulated signals that may be present.

The detector has only one tuned circuit and is simple to adjust.

AF Circuits

The demodulated signal is fed through a deemphasis network to a potentiometer, preset to suit the AF signal level obtained from the detector. This level depends on the maximum frequency deviation in use as determined by the channel spacing of the reciever.

The signal is then applied to an integrated amplifier in which a transistor, operating as an electronic on/off switch, has been placed between the two stages. This switch is controlled by the squelch circuit. The amplifier has a nominal output level of -17 dB (110 mV).

The signal is passed to the integrated loudspeaker amplifier and to the tone receiver, if fitted.

The loudspeaker amplifier amplifies the AF input signal of 110 mV to a maximum output level of 4 W into a 4 Ω load (EIA), 2 W (CEPT). The amplifier attenuates frequencies below 250 Hz.

Manual gain adjustment, and thus the loudspeaker output level, is effected by the volume control on the control panel of the radiotelephone. Electrically, the volume control is connected between the preamplifier and AF output amplifier.

The AF output stage consists of an integrated AF power module.

Temperature compensation and negative feedback are employed in the output amplifier to improve stabilization.

By applying a positive voltage to a "muting terminal" on the preamplifier it is possible to mute the AF output to the loudspeaker. This muting occurs during periods of transmission and when controlled by tone equipment, if fitted.

Squelch Circuit

The squelch circuit in CQM710a is operated by noise components contained in the demodulated signal.

The AF signal from the discriminator is passed to a frequency selective amplifier with a resonant circuit as the collector load.

The noise signal is passed through an amplitude selective noise amplifier, rectified and applied to a Schmitt trigger, which controls the electronic switch in the AF circuit.

When the noise level exceeds a certain value, i.e. when the signal to noise ratio falls below a certain value, the trigger circuit is activated and the AF output signal is switched off.

The Schmitt trigger also controls a squelch signal circuit which, in conjunction with a tone receiver, will operate the "engaged" lamp when there is traffic on the channel.

The squelch sensitivity is adjusted by a potentiometer located at the input of the noise detector.

The Schmitt trigger can be blocked manually by means of the squelch button on the control panel of the radiotelephone, thus overriding the squelch circuit.

TRANSMITTER

(See block diagram on page 5)

The transmitter is phase modulated. Its output frequency is 12 times the oscillator frequency. Phase modulation is performed at the fundamental frequency.

The transmitter comprises the following subunits:

Exciter	EX711
RF power amplifier 25 W	PA714
RF power amplifier 6 W	PA715
Antenna switching unit 25 W	AS713
Modulation amplifier and voltage regulator (These circuits constitute part of CF703)	CF703

Channel switching unit:

Maximum 6 channels	XS701
Maximum 4 channels, temperature compensated	XS702

AF Circuits

The modulating signal from the microphone is fed, through the tone generator if fitted, to the modulation amplifier where it is differentiated, amplified, limited, integrated, and filtered. The modulation amplifier transforms the microphone output to a signal suitable for the phase modulator and limits the signal amplitude so that the maximum permissible frequency deviation is not exceeded.

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The modulation amplifier is designed around an integrated circuit containing two operational amplifiers. Differentiation is performed by an RC network at the input of the first amplifier. A high degree of negative feedback ensures constant gain of the amplifier which also operates as an amplitude limiter.

The output signal is then applied through an RC network to a second limiter consisting of two dual diodes.

This limiter has been provided to prevent the phase modulator from being overdriven at low modulating frequencies. For normal frequencies and deviations the limiter will be inoperative.

Before being applied to the phase modulator, the modulating signal is filtered in a splatter filter which has been designed as an active element using the second amplifier of the integrated circuit.

A potentiometer located at the output of the modulation amplifier is used to adjust the maximum frequency deviation.

RF Circuits

The fundamental RF signal is generated in a crystal controlled oscillator contained in the exciter EX711.

When more than one channel is required the radiotelephone will be provided with a channel switching unit type XS701 or XS702.

As in the receiver, channel selection is performed by grounding the negative return of the appropriate oscillator.

The exciter provides the following:

(a) phase modulation
(b) frequency multiplication
(c) drive power for the power amplifier PA714 or PA715.

The RF signal from the oscillator is applied to the 1st buffer amplifier, then to the phase modulator, followed by the 2nd buffer amplifier. The buffer amplifiers provide constant input levels and correct impedance matching.

The phase modulator is a "transconductance modulator" as the phase modulation is produced by varying the transconductance of a transistor.

The modulating signal is applied to the emitter of the transistor whose operating point and transconductance thus change instantaneously with the modulating signal.

From the 2nd buffer amplifier, the signal is fed to a frequency multiplier chain consisting of a tripler, 1st doubler and 2nd doubler. The transmitter output frequency is therefore 12 times the crystal frequency.

The three multipliers are designed as balanced circuits resulting in suppression of some of the harmonic frequencies.

The tripler suppresses the even harmonics and the doublers suppress the odd harmonics.

Double tuned bandpass filters are used with close-to-dritical coupling between tuned circuits. These filters limit the bandwidth of the exciter and attenuate undesired harmonics generated in the frequency multiplication process.

The output signal from the 2nd doubler is fed to an amplifier operating at the final frequency of the transmitter. Tuned input and output bandpass filters of the amplifier provide additional selectivity and thus also attenuation of undesired signals. The amplifier raises the signal to the level required by the RF power amplifier. The nominal RF output power of EX711 is 50 mW into a 50 Ω load.

The bandwidth of the transmitter and thus the maximum frequency spread of the channels is determined by the selectivity of the exciter, which is 1 MHz.

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RF Power Amplifier

The power amplifier contains three (PA715 = two) transistor amplifier stages. The coupling between the stages consists of tuned matching networks with low loaded Q values.

The RF power amplifier is a high efficiency Class C amplifier. An ADC (Automatic Drive Control) circuit in the power amplifier unit regulates the supply voltage to the first stage and consequently the drive to the following stages. The purpose of the ADC circuit is to prevent overloading the power transistor. Additionally, the ADC circuit reduces the dependence of the output of the RF power amplifier on supply voltage. In the 25 W version the ADC circuit is also controlled by the heat sink temperature of the power amplifier.

The transmitter output power is adjusted to the required safe level by means of a potentiometer provided in the ADC circuit.

Antenna Circuits

The signal generated by the transmitter is passed through an electronic antenna switching unit and a low-pass filter to the antenna.

The antenna switching unit consists of diodes which are forward biased during transmission and reverse biased during reception. The low-pass antenna filter is a 7-pole Chebishev filter having low insertion loss and ripple.

The filter attenuates signals at undesired frequencies to an acceptable low level, e.g. harmomics of the transmitter frequency.

The antenna filter is not adjustable.

Power Supply and Switching Circuits

CQM710a is powered directly from a 12 volt car battery. The negative battery terminal connects directly to the cabinet of the radiotelephone.

A start relay connected across the battery input terminals protects the radiotelephone against damage caused by incorrect supply polarity. Incorrect battery connection will cause the relay series diode not to conduct and thus the relay refuses to operate.

The CQM710a contains two identical voltage regulator circuits which deliver 9 V stabilized supply voltages for operating the transmitter and receiver sections of the radiotelephone. The supply to the loudspeaker output amplifier and the transmitter RF power amplifier is taken from the battery and is unstabilized.

The voltage regulators are protected at the output against short circuit by limiting the maximum current to a safe value.

Each regulator has a blocking transistor controlled by the transmit key button. With the CQM710a in standby or receive condition, the key button is in the "off" position, i.e. not depressed. The receiver voltage regulator operates normally and operation of the transmitter voltage regulator is blocked. When the key button is pressed, operation and blocking of the two voltage regulators are reversed. The supply voltage for the power amplifier in the transmitter is taken from the battery and applied direcly to the amplifier.

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MICROPHONE MC704

GENERAL

Microphone MC704 is designed for mobile operation with radiotelephones of series 600 and 700. It consists of an amplifier type AA705 and a microphone cartridge in a plastic housing, a cable for connecting, to the radio unit, and a mounting bracket.

Amplifier AA705

The microphone amplifier serves as band-pass filter for the audio frequency band 300 Hz - 3000 Hz and amplifies the signals from the microphone to a suitable level.

The amflifier consists of three transistors, Q1, Q2, and Q3 all DC-coupled. The gain is determined by the feed-back circuit R1, R2, R11 and C9, and with potentiometer R1 the gain can be adjusted to a suitable microphone sensitivity.

The RC-circuit C2, C3, R4, R6, and R3 form in association with the feedback amplifier an active highpassfilter which attenuates all frequencies below 300 Hz.

Resistor R11 and capacitor C9 in the feedback loop cut off frequencies above 3 kHz, and C7 stabilises the closed loop gain.

A number of capacitors, C4, C5, C6, C8, C10, and resistor R5 serves to filter and by-pass RF.

Specifications

Supply Voltage
9 - 24 V

Current Consumption
9mA ± 2mA (9V)
32mA ± 5mA (24V, R_L = 600 ohm)

Output Level
Nominal: - 17 dBm
Maximum: + 3 dBm

Distortion at + 3 dBm
Less than 3%

Gain
Maximum: 58 dB ± 4 dB
Minimum: 39 dB ± 4 dB

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MICROTELEPHONE MT704

Microphone MT704 is designed for mobile use in association with series 700 and series 600 radiotelephones. The unit consists of a handset and a retainer interconnected by a coiled cord. When placed in the retainer the handset activates two microswitches. Built into the handset two amplifiers, AA706 and AA707, are used to drive the telephone and amplify the microphone signals, repectively.

AA706 Amplifier

The amplifier consists of two stages of which the first is an amplifier and the last an emitterfollower. To ensure sufficient suppression of ripple voltage the base voltage divider of Q1 is utilizing the low dynamic resistance of a dual diode. The AF gain is for the greater part determined by the ratio of R3 to R4, and the telephone is driven via C3 in order to counteract the DC polarity. Capacitor C2 between the base and collector of Q2 stabilises the amplifier.

Specifications

Supply Voltage

13. 6V	24V

Current Consumption

16 mA (19 mA)	20 mA (23 mA)

Input Impedance

9. 5 Kohm	9. 5 Kohm

Input Level

90 mV	100 mV

Output Level

450 mV	500 mV

Load Impedance

300 ohm	300 ohm

Distortion, Vout=1V

10%

Temperature Range

- 30 C - + 60 C

Dimensions

3, 5 mm (diameter) X 8mm

Weight

6 g

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AA707 Amplifier

The amplifier consists of two stages in which the AC and DC feedback is determined by the components that form the base network by Q1. The AF gain is for the greater part determined by the ratio of R4 to the series connection of R3, R2, and the microphone impedance. The normal AF gain is 30dB but can be raised to 42 dB by shorting R3. Capacitors C2 and C3 are bypassing RF, if any present.

Specifications

Supply Voltage

9V	24V

Current Consumption

Gain 42dB:

7,3mA (11mA)	

Gain 30dB:

8.3mA (12mA)	8.4mA (12mA)

Gain

30dB (28dB)

R3 shorted:

42 dB (40dB)	42dB (40dB)

Load Impedance

560 Ohm	830+1500 ohm

Output Impedance

15-50 ohm	500 ohm

Output Level

110mV	110mV

Distortion, Vout=1V

10%

Temperature Range

-30 C - + 60 C

Dimensions

35.5 mm (diameter) x 8mm

Weight

6g

ADJUSTMENT PROCEDURE FOR CQM710
RECEIVER ALIGNMENT

Before switching on the CQM700 connect a power supply with the correct polarity to the battery connector.

Set the supply voltage to 13.6 V and the current limiter to 1 A.

The station may now be switched on.

Check the 9 V RX at terminal 33 on the terminal board.

Requirement: 9 V ± 0.1 V

If necessary, adjust the RX voltage by means of potentiometer R91 in CF703. This potentiometer can be reached from the rear of the module tray BA700.

Alignment of 2nd IF Amplifier (455 kHz)

To protect the IF amplifier input stages, establish a good earth connection between a 455 kHz gene rator and the CQM700 chassis.

Apply a 455 kHz signal to the input of CF703. The IF generator STORNO G21 is well suited.

Connect a DC voltmeter with RF probe, STORNO 95.089, to test point [1] in CF703.

Adjust transformers T1 and T2 for maximum meter reading, attenuating the generator output before overloading the IF amplifier, causing limiting The readings should be kept below approx. 500 mV if an EVM (electronic voltmeter) is used, and in any case below the point where an increase in generator output voltage results in a decreasing meter reading.

Coarse Adjustment of L1 in CF703

Disconnect the generator and disable the squelch by pushing the "Squelch out" button on the control panel/control box, or by switching the squelch off on the control unit C33/C34. Connect an AC EVM to terminal 35 LINE OUT (AF - 17 dBm) on the teerminal board. On the control units C33/C34 the reading may be taken from LINE OUT.

Adjust coil L1 in CF703 for maximum meter reading. If two maxima are obtainable, adjust for the greater.

If no reading can be obtained, the potentiometer R19 (AF-RX) may be turned up. This potentiometer can be reached from the top of the module tray BA700, and turns up counter-clockwise.

Adjustment of Oscillator Frequency in IC700

If a frequency counter is available, the frequency may be read at test point [5] , IC700. If the input of the frequency counter is DC-coupled, a capacitor (approx. 1 nF) should be connected in series. The frequency will either be 10.245 or 11.115 MHz. Refer to circuit description, "Intermediate Frequency Circuits".

Where no counter is at hand, proceed as follows:

Connect a 455 kHz generator to the IF input of CF703 and a 10.7 MHz generator to the input of IC700. A modified G21 may be used, i.e. the two oscillators, 455 kHz and 10.7 MHz, both in operation at the same time by pressing both buttons. The 10.7 MHz output is fixed, and the 455 kHz variable by means of the attenuator. The accuracy of the generator signal should be checked to be 10.7 MHz ± 20 Hz.

Adjust the output level of the 455 kHz generator until a beat note is produced in the speaker (LS in/out must be pressed if tone equipment is installed).

Adjust trimmer capacitor C12 in IC700 for zero beat.

The frequency difference may also be observed on an oscilloscope connected to the "Line out", 600 Ω audio output, which is accessible on the terminal board, terminal 35, and on the control units C33/C34.

NOTE: The discriminator has no zero adjustment.

Storno

Alignment of 1st IF Amplifier (10.7 MHz)

Apply a 10.7 MHz signal to the input of IC700.

Connect a DC meter with an RF probe (95.089) to test point [1] in CF703.

Adjust coils L1, L2, and L3 in IC700 for maximum meter reading. The input level should be kept low enough to prevent limiting.

Gain of IC700: $\geq$ 20 dB.

Alignment of Multiplier Chain in RC711

When crystals have been inserted in RC711 and/or XS701/XS702, select the middle frequency channel.

Connect a DC voltmeter to test point (1) in RC711.

Tune L7 and L8 in RC to maximum, approx. 0.4V.

Requirement: $\geq$ 0.3 V.

Connect a DC voltmeter to testpoint (2) in RC711.

Adjust L6 to minimum, approx. 8 V.

Requirement: $\leq$ 8.5 V.

To tune for maximum drive to the 1st mixer, connect a DC voltmeter with an RF probe to test point (2) in RC711.

L5, RC711, is adjusted for maximum meter reading.
L4, RC711, is adjusted for minimum meter reading.
L3, RC711, is adjusted for maximum meter reading.
L1, RC711, is adjusted for minimum meter reading.

Since only very small variations occur at test point (2), especially in the final circuits, the drive to the 1st mixer should be checked:

Connect a DC voltmeter to test point (3) in RC711.

Touch up the tuning of coils L5, L4, L3, and L1 for maximum meter reading.

Stop the oscillator (select a channel with no crystals or take a crystal out).

The voltage at test point (3) with the oscillator stopped will be 1 to 4.5 V.

Start the oscillator.

Requirement: Minimum increase at test point (3), RC711 = 0.5 V.

Adjustment of Temperature Regulating Circuit in XS702

The temperature regulating circuit of XS702 has been adjusted before leaving the factory. However, if necessary, it may be readjusted as follows:

Turn potentiometer R39 in XS702 fully counter-clockwise.

Remove jumper connecting the NTC resistor.

Set the supply voltage for the CQM700 to 13.6 V.

Check the current consumption of XS702 by inserting an ammeter in the orange/blue wire to XS702.

Adjust the current to 0.45 A by means of R39 (This adjustment should not exceed 30 seconds).

Insert jumper connecting the NTC resistor again and reconnect the orange/blue wire.

Further Alignment of RC711, Tuning of RA712, and Fine Tuning of IC700

Connect a DC EVM with an RF probe to test point [1] in CF703. An AVO-meter may be used, but the deflection will only be on the order of tens of microamperes.

Connect an unmodulated RF generator to the antenna input of the CQM700. Set the RF output level to 100 mV.

Set the generator to the receiver frequency. Fine tuning of the generator frequency may be done by loosely coupling a 455 kHz signal to the IF input of CF703. (First connect CQM700 chassis to generator earth.) Tune the RF generator for zero beat with the LS in/out depressed if tone equipment is installed.

During adjustment the RF generator output should be kept low enough to prevent limiting in CF703, i.e. a reading of approx. 500 mV on a DC EVM with an RF probe at test point [1], CF703.

The following coils are tuned for maximum meter reading in this order:

L1, RA712
L2, RA712
L3, RA712
L4, RA712
L5, RA712

Storno

Due to interaction, the procedure should be repeated until no further increase in meter reading can be obtained.

By adjusting L1, RC711, the oscillator drive signal to the first mixer will have decreased. L3, RC711, must be fine tuned for maximum reading on a DC voltmeter connected to test point (3), RC711.

Now, when stopping the oscillator, the voltage at test point (3) should fall at least 0.3 V.

L2 in RC, and L1, L2, and L3 in IC700, are now fine tuned for maximum reading at test point [1], CF703. The circuits in IC700 should be aligned two or three times, as they influence each other.

Fine Tuning of L1 in CF703

Keep the RF generator connected as described and set its output attenuator for full limiting in the CQM700, approx. 1 mV EMF from the generator.

Modulate the generator with 1 kHz to a frequency swing of ± 3.5 kHz, (for CQM714: ± 1.75 kHz).

Connect an audio voltmeter to test point [2] in CF703. Peak coil L1 in CF703, for maximum meter reading.

Requirement: $\geq$ 50 mV

Adjustment and Checking of Audio Circuits

Modulate the RF generator with 1 kHz, and set the frequency deviation to 0.7 x Δ f max.:

CQM713a (25 kHz channel spacing) 3.5 kHz.
CQM713a (20 kHz channel spacing) 2.8 kHz.
CQM714a (12.5 kHz channel spacing) 1.75 kHz.

Set the RF generator output level to approx. 1 mV EMF.

If the CQM700 is provided with tone equipment press the LS in/out button.

Check the frequency of the RF generator.

Back off the volume control on the control unit, and on the control box/control panel, if any.

Connect an audio voltmeter to terminal 35.

Adjust the audio output level to 110 mV by means of R19 in CF703.

Measure the AF voltage at the telephone output, on C33/C34 or pin z on the multiwire connector.

Requirement: 90 mV ± 1.2 mV.

Connect the load incorporated in the control units C33/C34 across the Loudspeaker terminals.

Connect an audio voltmeter and a distortion meter across the loudspeaker terminals (to LS /out on C33/34). Set the volume control for 3.46 V on the meter. ~ 2.5 W.

Check the distortion.

Requirement: CQM713a (-5): K $\leq$ 7%.
CQM714a (-5): K $\leq$ 9%.

Adjustment of Oscillator Frequency in RC711

The frequency is measured after the doubler with a counter connected to test point (2) in RC711. The frequency should be

$f_{antenna}$ -10.7 MHz. The oscillator frequency is adjusted with C27, RC711.

In CQM700, with XS701/XS702 frequency adjustment must be performed on each channel with the trimmer capacitor of the appropriate oscillator.

Requirement:

CQM713: Better than ± 1×10^{-6}
CQM714: Better than ± 0.5×10^{-6}

The tolerances are valid only for a crystal temperature of 25° C.

Storno

Checking Receiver Sensitivity

Modulate the RF generator with 1 kHz, and a frequency deviation of 0.7 x max. Δ f. Set the generator output to 1 mV EMF.

Connect the distortion meter across the loudspeaker terminals, substituting a 4 Ω resistor for the speaker.

Set the volume control for 1 V across the load.

Reduce the RF generator output until 12 dB SINAD is obtained on the distortion meter.

Read the calibrated RF voltage from the RF generator.

Requirement: for 12 dB SINAD $\leq$ 0.55 μ V EMF.

If more than one channel is provided, the procedure should be repeated on all channels.

Adjustment and Check of Squelch

Adjust the squelch by means of potentiometer R46 in CF703 to open the audio signal path for an antenna signal of 10 to 12 dB SINAD across the speaker terminals.

Remove the antenna signal and check that the squelch will close and block the audio output.

Check that the audio path reopens when the squelch button is activated.

TRANSMITTER ADJUSTMENT

Then set the supply voltage to 13.6 V, and the current limiter to 5 A. (1.8 A for 6 W transmitter)

If tone equipment is installed, the LS in/out butto must be pressed to establish a DC path for the transmitter keying function.

With the transmitter output loaded (antenna or dummy load connected), key the transmitter and check 9 V TX at terminal 19 on the terminal board.

Requirement: 9 V TX = 9 V ± 0.2 V.

If necessary, adjust the TX voltage by means of potentiometer R98 on CF703.

Alignment of Exciter EX711

Remove the RF signal lead between EX711 and PA714 (715).

Connect a 47 Ω resistor across the output of EX711 (this load may also be soldered across the input of an RF probe, STORNO 95.059, and the probe connected across the output of EX711 for the duration of the alignment of the exciter).

When crystals have been inserted in EX711 and/or XS701/XS702, select the middle frequency channel and key the transmitter.

Connect a DC voltmeter to test point (1) in EX711.

Adjust L4 and L5 for maximum meter reading, approx. 1.4 V.

Move the voltmeter to test point (2) in EX711.

Adjust L7 and L6 for maximum meter reading. approx. 0.8 V.

Move the meter to test point (3), EX711.

Adjust L9 and L8 for maximum, approx. 0.05 V.

Adjust L10 for maximum output.

Adjust L6, L7, L8, L9, and L10 for maximum RF output from EX711.

Requirement: $P_{out} \geq$ 100 mW.

(Measured with a DC voltmeter and RF probe 95.059, the voltage should read more than 5.0 V).

Alignment of RF Power Amplifier.

Reestablish the connection between EX711 and PA714.

Connect a Wattmeter to the antenna connector.

The power amplifier should be aligned at a supply voltage of 12.5 V. This ensures highest possible output power at low supply voltage and a resonable high efficiency at high supply voltage.

Power Amplifier PA714 (25 W)

Turn the ADC potentiometer, R11, PA714 up (clockwise), but observe that the current drain does not exceed 5 A during the adjustments.

Storno

Adjust trimmer capacitors C2, C6, C8, C9, C13, and C15 in that order for maximum current drain until a Wattmeter deflection is obtained.

Repeat the adjustment until maximum output power is obtained.

a. During the following adjustment the ADC potentiometer, R11, is set to 20 W output power.

b. Connect a voltmeter to testpoint (1) .

c. Adjust capacitors C2 for minimum voltage.

d. Adjust capacitors C6, C8, C9, C13, and C15 for maximum output power.

Repeat steps a to d.

Increase the supply voltage to 16 V and set the ADC potentiometer, R11, to 22 W output power.

Remove link NOTE 1 and set R12 to 4 W output power.

Insert link NOTE 1.

Readjust the ADC potentiometer for 22 W output power.

Measuring RF Output Power, Current Consumption and the Function of the ADC Circuit.

The RF output power and the current consumption are measured at 16 Volt, 13.6 Volt and 10.5 Volt supply.

Requirements:

Supply voltage	Power	Current
16 V	= 22 W	$\leq$ 3.8 A
13.6 V	$\geq$ 20 W	$\leq$ 4.3 A
10.5 V	$\geq$ 12 W	$\leq$ 4.3 A

If the figures above can be obtained on all channels the ADC circuit is operating properly.

Power Amplifier PA715 (6 W)

Turn the ADC potentiometer R6, PA715, up (clockwise), but observe that the current drain does not exceed 1.8 A during the adjustments.

Adjust trimmer capacitors C2, C12, C15, and C14 in that order for maximum current drain until a Wattmeter deflection is obtained.

Repeat the adjustment until maximum output power is obtained.

a. During the following adjustment the ADC potentiometer is set to 6 W output power.

b. Connect a voltmeter to the ADC testpoint.

c. Adjust trimmer capacitor C2 for minimum ADC voltage.

d. Adjust capacitors C12, C14, and C15 for maximum output power.

e. Repeat steps a to d.

Increase the supply voltage to 16 V and set the ADC potentiometer, R6, to 6 W output power.

Measuring RF Output Power, Current Consumption, and the Function of the ADC Circuit.

The RF output power and the current consumption are measured at 16 V, 13.6 V, and 10.5 V supply.

Requirements:

Supply Voltage	Power	Current
16 V	= 6 W	$\leq$ 1.6 A
13.6 V	$\geq$ 5.5 W	$\leq$ 1.8 A
10.5 V	$\geq$ 3.5 W	$\leq$ 1.6 A

If the figures above can be obtained on all channels the ADC circuit is operating properly.

Use of Control Unit C33/C34 When Adjusting Modulation

The control units C33/C34 may be used for stations with or without tone equipment and a voltage divider and a DC locking capacitor is incorporated.

Where a tone transmitter is installed the modulation signal must pass through the switching transistor (the AF gate) in the tone transmitter. The emitter resistor for this transistor is situated in the microphone amplifier, which is disconnected when adjusting the modulation. An alternate DC path must therefore be provided for the switching transistor in the tone transmitter to allow it to pass the modulation to the modulation amplifier of the CQM700. The DC supply voltage for the microphone amplifier in MC700 is also obtained through the switching transistor. This DC voltage should be isolated from the audio generator output.

A resistor R3, in fig. 2 has been installed to provide the DC path for the switching transistor.

Storno

This resistor would, as far as AC is concerned, seem to be in parallel with R2 in CF703. To the audio generator the two would present an impedance of 280 Ω which is only half the required value. Another resistor, consisting of R1 and R2 in C33/C34, places 280 Ω in series with the input signal, bringing the input impedance up to 560 Ω. At the same time, a capacitor in series with the signal effectively blocks the DC voltage from CF703, which is normally fed to the microphone amplifier in MC700 through terminal 7 of the terminal board.

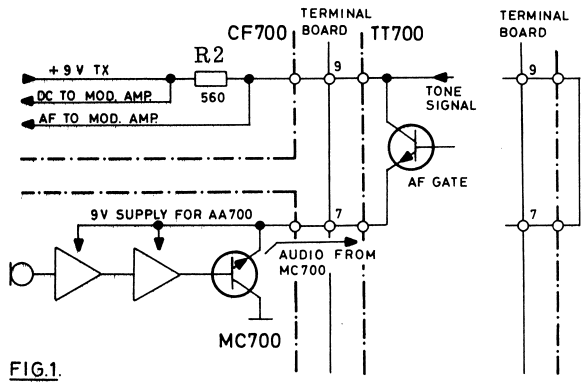


FIG.1.

MODULATION PATH FROM MC700 TO CF700, AND 9V SUPPLY FROM CF700 TO MC700.

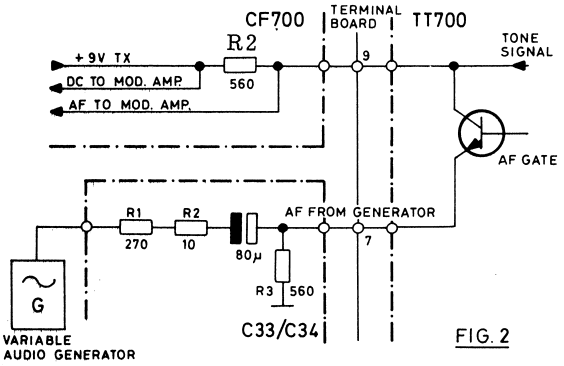


FIG. 2

MODULATION THROUGH USE OF CONTROL UNIT C33/C34

The resistors combine as a voltage divider when seen from the input to the control unit marked "modulation, AF gen.". This voltage divider attenuates the audio generator output by 6 dB in passing through C33/C34 to the modulation amplifier on CF703. The generator output must therefore be set 6 dB above the required input to the amplifier modulation. The adjustment procedure takes this into account.

Adjustment of Modulation and Frequency Deviation

NOTE:

Where an ST7845 is installed, a strap between 7 and 9 on the terminal board must be substituted during the following procedure.

Connect the deviation meter to the transmitter output via an attenuation network (25 W capacity).

Connect a distortion meter and an audio voltmeter to the audio output of the deviation meter.

Set the power supply voltage to the CQM700 to 13.6V.

Connect an audio generator to the modulation input of control unit C33 or C34.

Set the generator for an audio output of 2.2 V. This value is 20 dB above the nominal modulation input level to ensure full limiting in the modulation amplifier on CF 703. The 6 dB loss in C33/C34 is also taken into account, and the nominal input level will be found to be

2.2 V -26 dB = 110 mV.

Find the audio generator frequency between 300 Hz and 3 kHz giving the greatest frequency deviation as read on the deviation meter with the transmitter keyed. At that audio frequency set the maximum deviation with R18 on CF703.

CQM713a (-6)	(25 kHz)	Δ f max. = ± 5 kHz
CQM713a	(20 kHz)	Δ f max. = ± 4 kHz
CQM714a	(12.5 kHz)	Δ f max. = ± 2.5 kHz

NOTE:

If the adjustment of Δ f is impossible, e.g. the deviation is too high, the brown wire to terminal 23 on CF703 is moved to terminal 24 and capacitor C8 (47 nF) is removed.

Set the audio generator to 1000 Hz and attenuate the the output until a frequency deviation of 0.7 x Δ f max. is read on the deviation meter.

CQM713	(25 kHz)	0.7 x Δ f max. = ± 3.5 kHz
CQM713	(20 kHz)	0.7 x Δ f max. = ± 2.8 kHz
CQM714	(12.5 kHz)	0.7 x Δ f max. = ± 1.75 kHz

Requirement:

V_{mod} = 220 mV ± 2 dB
(175 mV - 275 mV) input to C33/C34.

Storno

Check the distortion on the audio output of the deviation meter.

Requirement: $k \leq 10\%$ (without de-emphasis)

Checking the Transmitter Stability

Transmitter instability appears as AM modulation of the transmitted carrier by a modulating frequency which may vary between

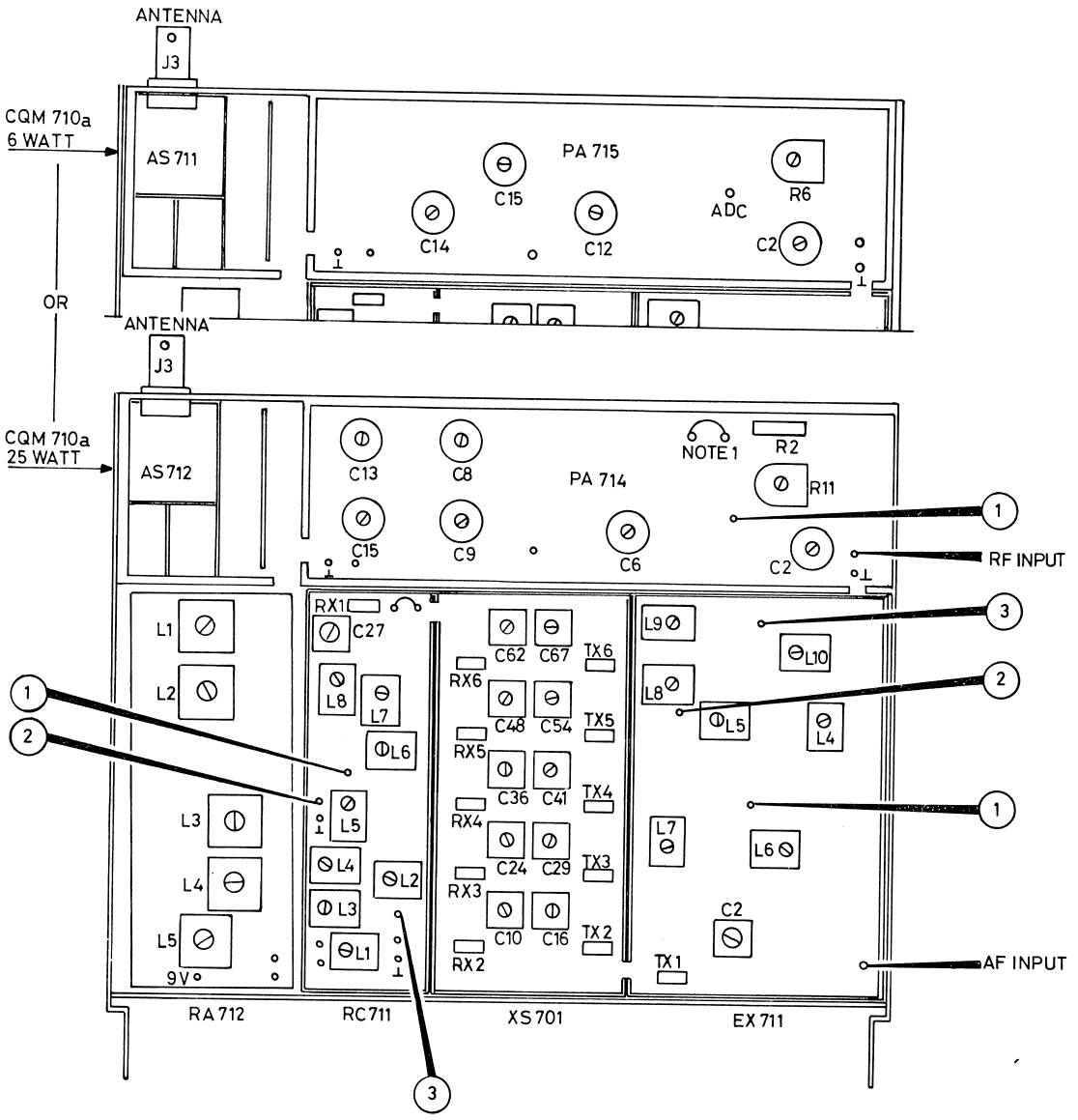
0.5 - 40 MHz.

The existence of parasitic oscillations can be determined by means of a detector followed by a filter, which removes the carrier, and an indicator, e.g. an oscilloscope, a millivoltmeter, or simply a multimeter with a diode detector. When using the latter, an amplifier is required, e.g. STORNO amplifier detector type TS-F42A.

While varying the phase angle with W52C, check that no deflection appears on the AM indicator at any supply voltage between 10.5 V and 16 V.

For further details please refer to STORNO Service News No. 38 of May, 1969.

Storno

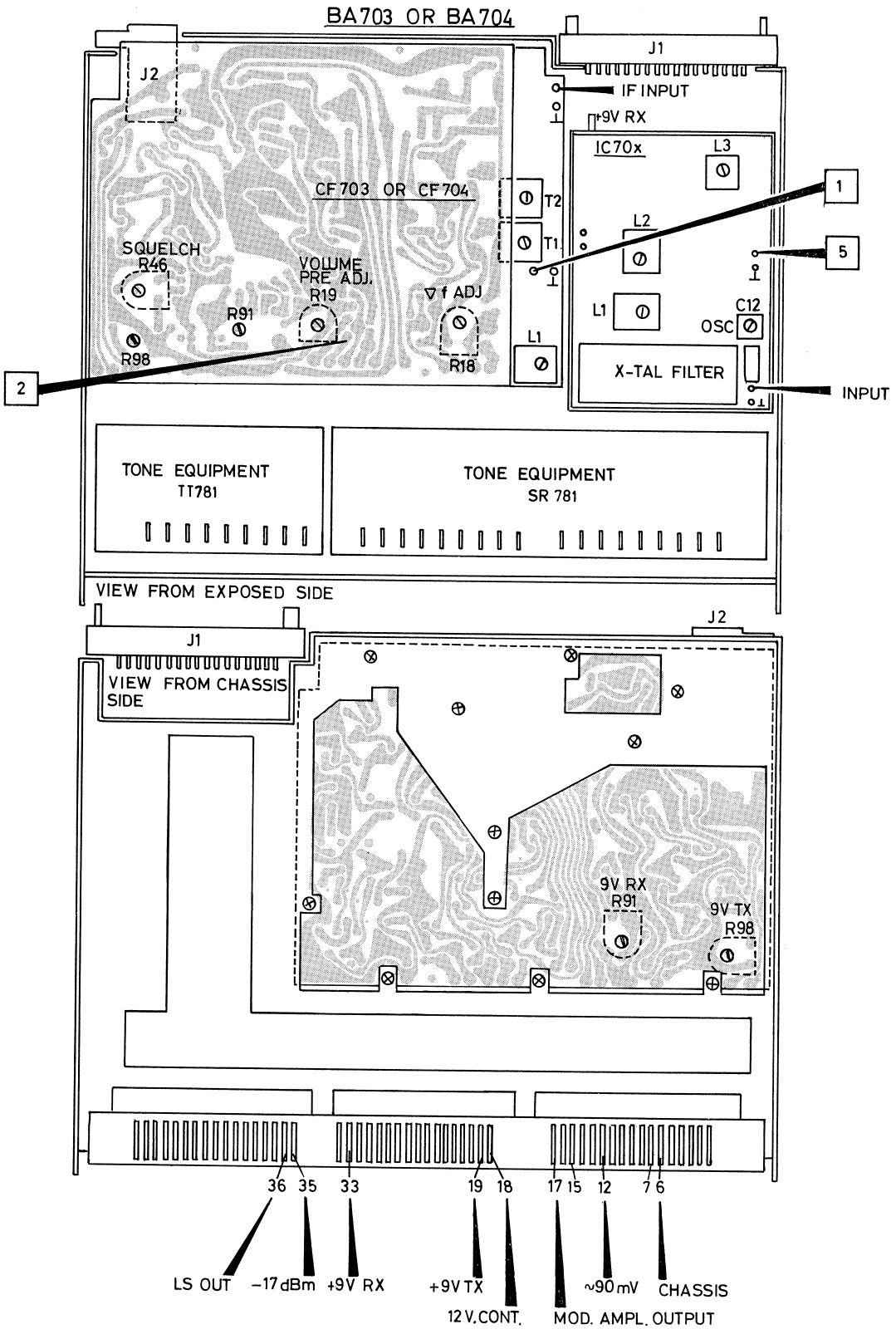


RADIO ASSEMBLY RF714 (CQM713a, CQM714a)

Location of Test Points and Adjustable Components

D402.390

Storno



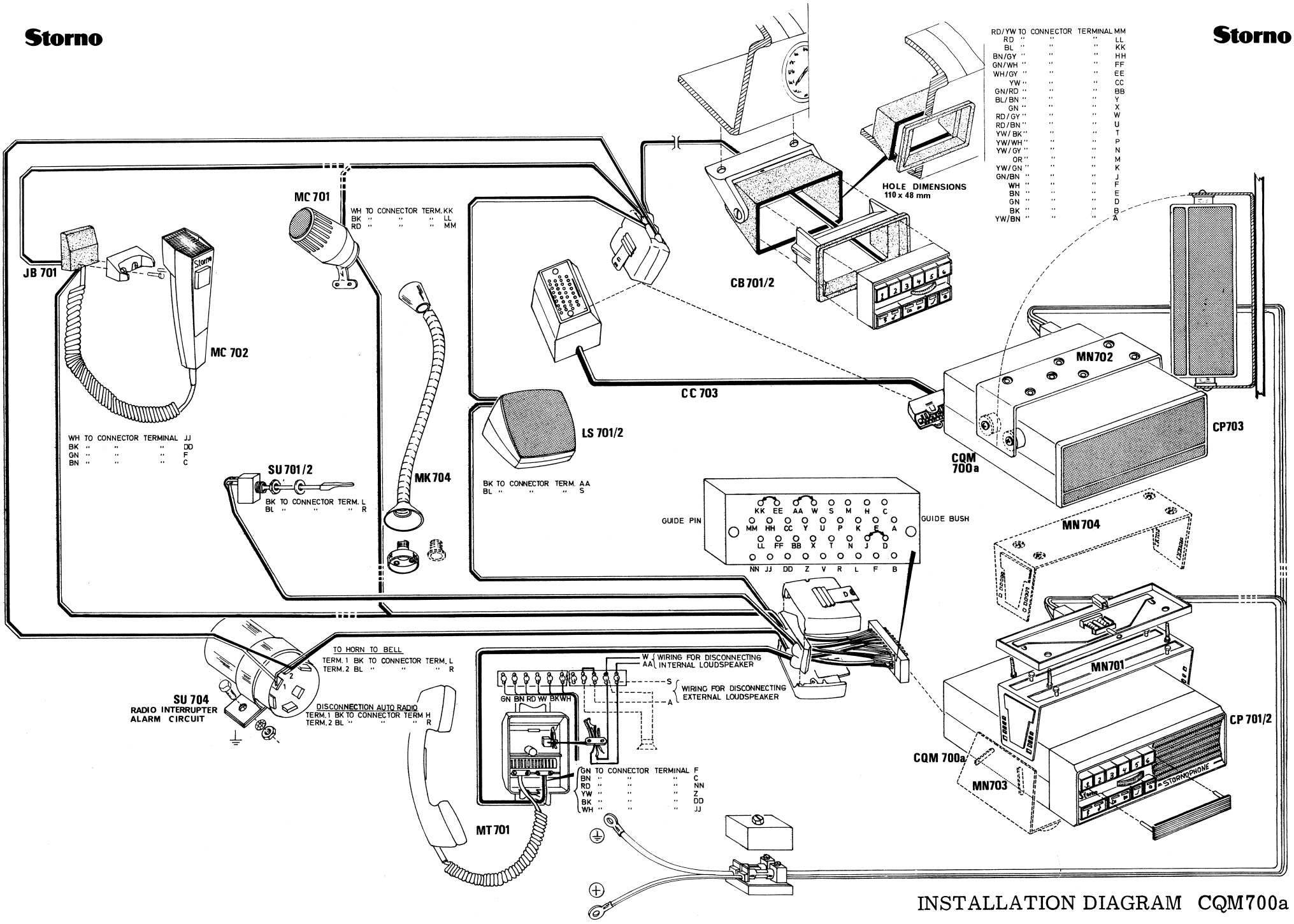
BASIC ASSEMBLY BA703 AND BA704

Location of Test Points and Adjustable Components

CIRCUIT DIAGRAMS AND PARTS LISTS

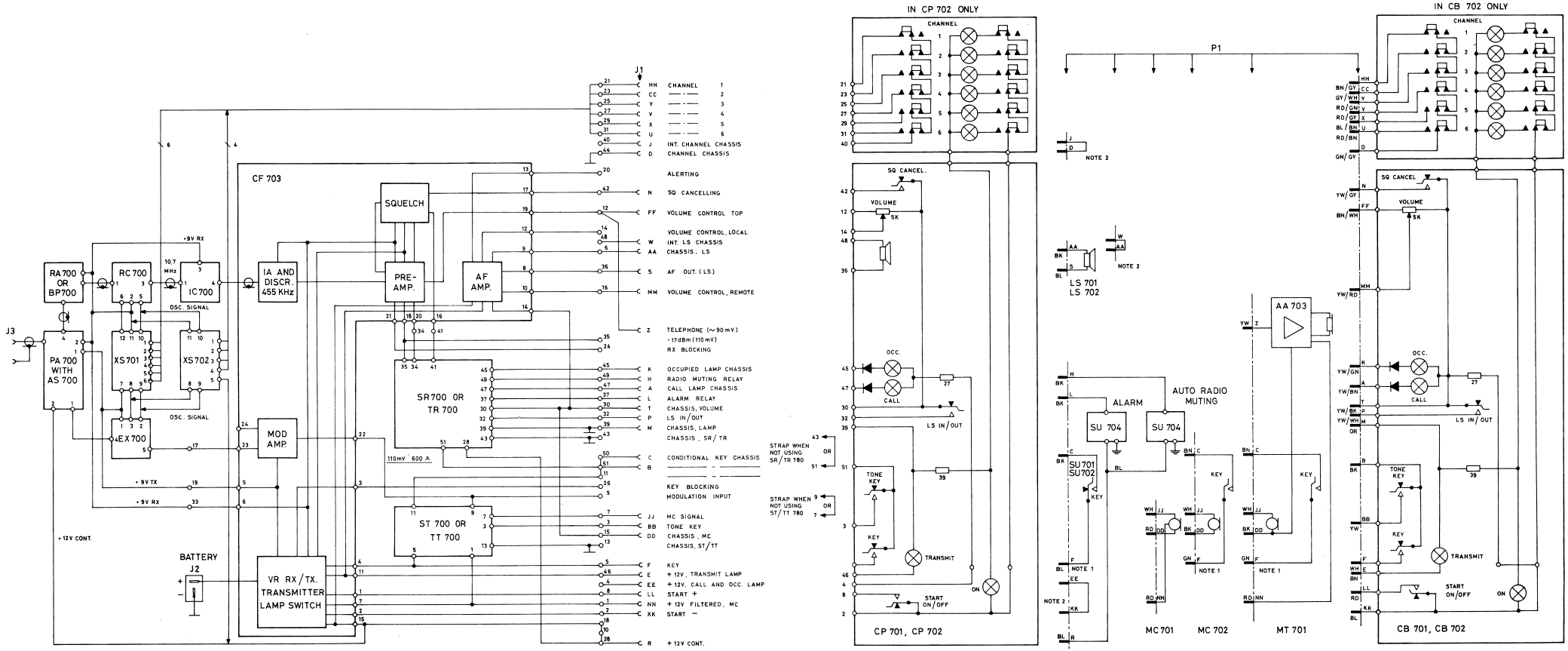
Storno

Storno



INSTALLATION DIAGRAM CQM700a

D402. 450



17 WIRE NUMBER CORRESPONDING TO NUMBERS ON TERMINAL BOARD.
LEDNINGSNUMMER SVARENDE TIL NUMRE PA TERMINALBRÆT.

1 TERMINAL NUMBER CORRESPONDING TO NUMBERS ON SCHEMATIC.
TERMINALNUMMER SVARENDE TIL NUMRE PÅ DIAGRAMMER.

NOTE 1: DO NOT CONNECT F TO CB 701/2, WHEN USING SU 701, SU 702, MC 702 OR MT 701.
F FORBINDES IKKE TIL CB 701/2, NÅR SU 701/2, MC 702 ELLER MT 701 ANVENDES.

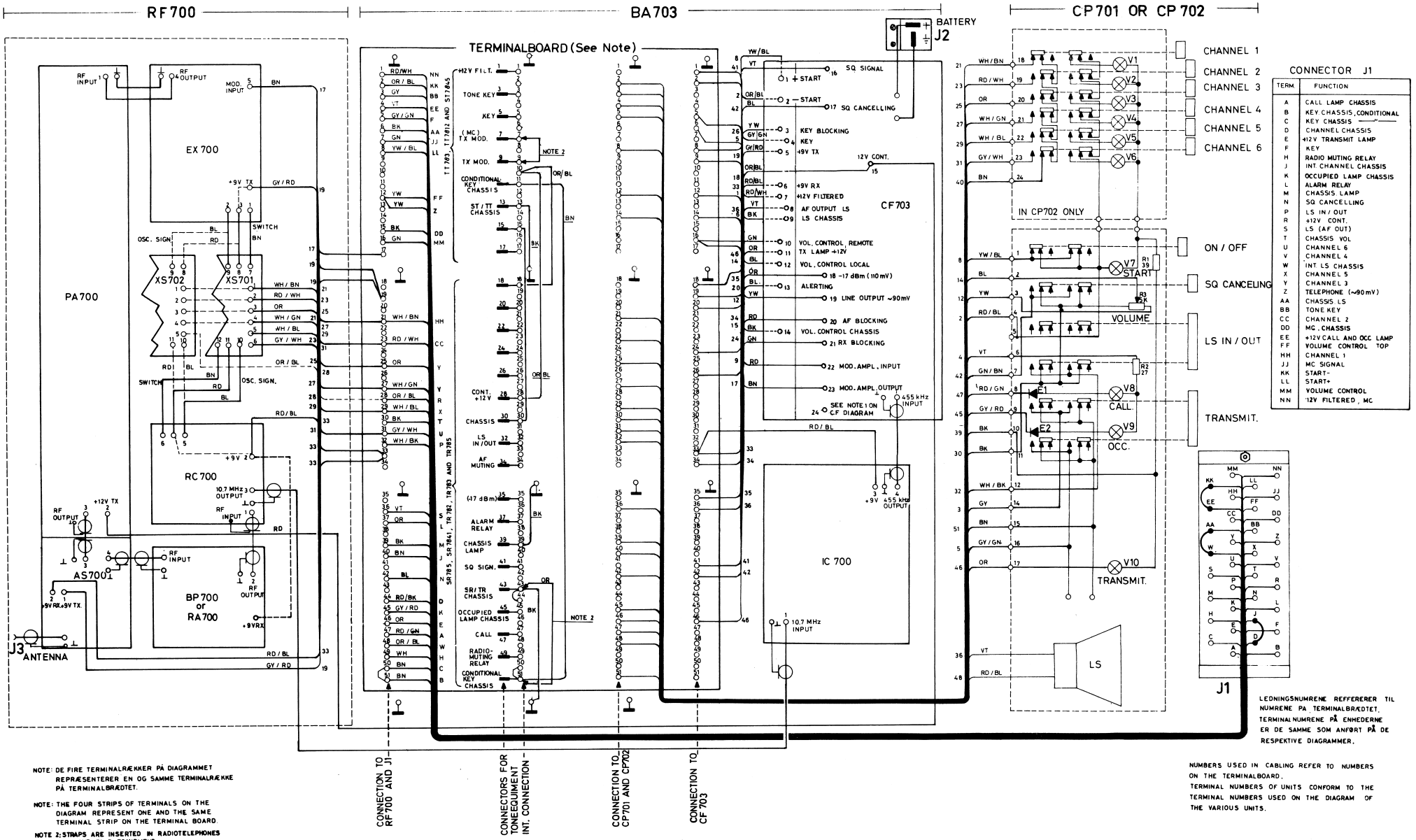
NOTE 2. STRAPS FOR LOCAL CONTROLLED EQUIPMENT.
STRAPNINGER FOR LOKAL BETJENT ANLÆG.

SYSTEM LAY-OUT
SYSTEMDIAGRAM. CQM 700 a

D 402.360

Storno

Storno



CONNECTOR J1

TERM	FUNCTION
A	CALL LAMP CHASSIS
B	KEY CHASSIS, CONDITIONAL
C	KEY CHASSIS
D	CHANNEL CHASSIS
E	+12V TRANSMIT LAMP
F	KEY
H	RADIO MUTING RELAY
J	INT. CHANNEL CHASSIS
K	OCCUPIED LAMP CHASSIS
L	ALARM RELAY
M	CHASSIS LAMP
N	SQ CANCELLING
P	LS IN / OUT
R	+12V CONT.
S	LS (AF OUT)
T	CHASSIS VOL
U	CHANNEL 6
V	CHANNEL 4
W	INT. LS CHASSIS
X	CHANNEL 5
Y	CHANNEL 3
Z	TELEPHONE (~90 mV)
AA	CHASSIS LS
BB	TONE KEY
CC	CHANNEL 2
DD	MC. CHASSIS
EE	+12V CALL AND OCC LAMP
FF	VOLUME CONTROL TOP
HH	CHANNEL 1
JJ	MC SIGNAL
KK	START-
LL	START+
MM	VOLUME CONTROL
NN	12V FILTERED, MC

NOTE: DE FIRE TERMINALRÆKKER PÅ DIAGRAMMET REPRÆSENTERER EN OG SAMME TERMINALRÆKKE PÅ TERMINALBRÆDTET.

NOTE: THE FOUR STRIPS OF TERMINALS ON THE DIAGRAM REPRESENT ONE AND THE SAME TERMINAL STRIP ON THE TERMINAL BOARD.

NOTE 2: STRAPS ARE INSERTED IN RADIOTELEPHONES WITHOUT TONE EQUIPMENT.

NOTE 2 STRAPNINGER INDSÆTTES I ANLÆG UDEN TONEUDSTYR.

LEDNINGSNUMRENE REFFERERER TIL NUMRENE PÅ TERMINALBRÆDTET. TERMINALNUMRENE PÅ ENHEDERNE ER DE SAMME SOM ANFØRT PÅ DE RESPEKTIVE DIAGRAMMER.

NUMBERS USED IN CABLING REFER TO NUMBERS ON THE TERMINALBOARD. TERMINAL NUMBERS OF UNITS CONFORM TO THE TERMINAL NUMBERS USED ON THE DIAGRAM OF THE VARIOUS UNITS.

CABLING

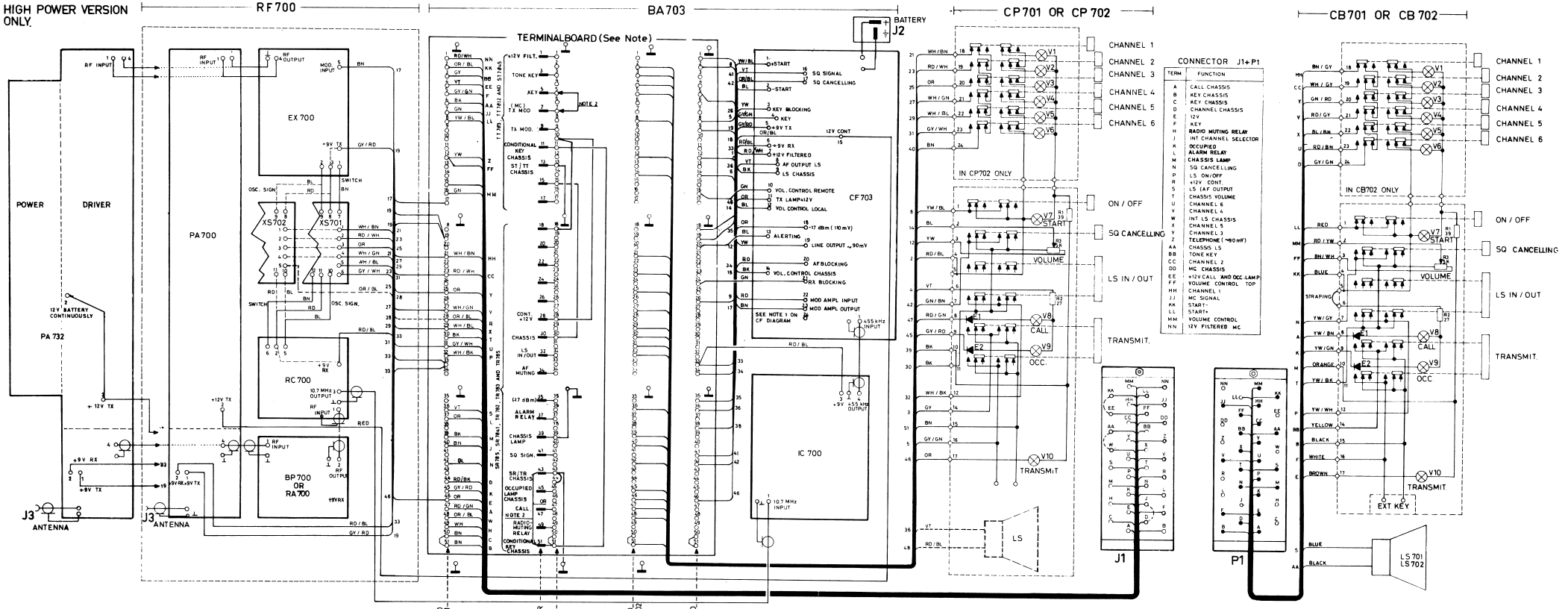
LOCAL CONTROLLED

CQM700a

D402.392

Storno

Storno



NOTE: DE FIRE TERMINALRÆKKER PÅ DIAGRAMMET REPRÆSENTERER EN OG SAMME TERMINALRÆKKE PÅ TERMINALBRÆDTET.

NOTE: THE FOUR STRIPS OF TERMINALS ON THE DIAGRAM REPRESENT ONE AND THE SAME TERMINAL STRIP ON THE TERMINAL BOARD.

NOTE 2 STRAPS ARE INSERTED IN RADIOTELEPHONES WITHOUT TONE EQUIPMENT.

NOTE 2 STRAPNINGER INDSÆTTES I ANLÆG UDEN TONEUDSTYR.

CONNECTION TO RF 700 AND J1

CONNECTORS FOR TONEEQUIPMENT INT. CONNECTION

CONNECTION TO CP701 CP702

CONNECTION TO BA 703

NUMBERS USED IN CABLING REFER TO NUMBERS ON THE TERMINALBOARD. TERMINAL NUMBERS OF UNITS CONFORM TO THE TERMINAL NUMBERS USED ON THE DIAGRAM OF THE VARIOUS UNITS.

LEDNINGSNUMRENE REFFERERER TIL NUMRENE PÅ TERMINALBRÆDTET. TERMINALNUMRENE PÅ ENHEDERNE ER DE SAMME SOM ANFØRT PÅ DE RESPEKTIVE DIAGRAMMER.

CABLING

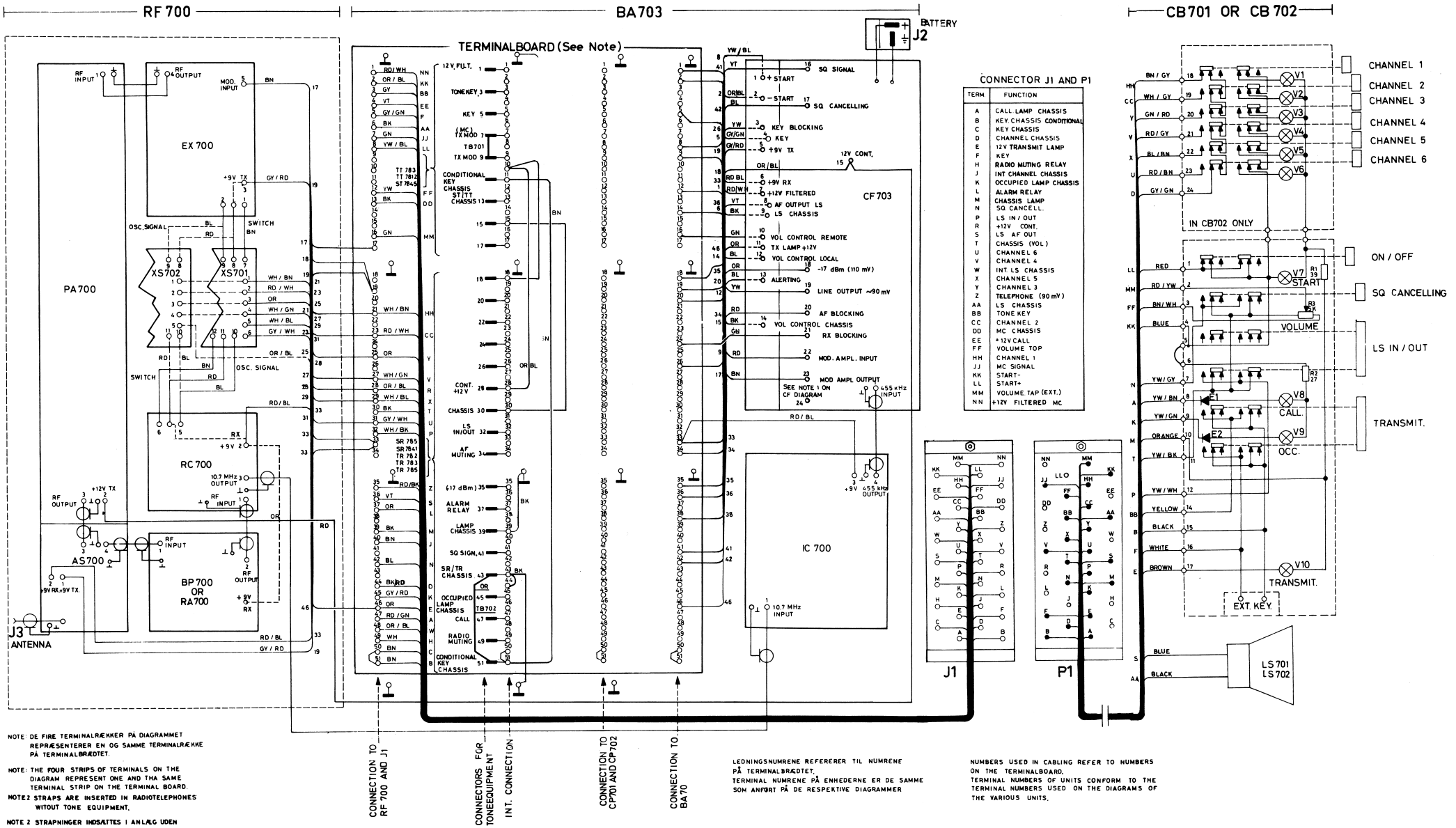
LOCAL / EXTENDED LOCAL CONTROLLED

CQM700a

D402.393

Storno

Storno



NOTE: DE FIRE TERMINALRÆKKER PÅ DIAGRAMMET REPRÆSENTERER EN OG SAMME TERMINALRÆKKE PÅ TERMINALBRÆDTET.

NOTE: THE FOUR STRIPS OF TERMINALS ON THE DIAGRAM REPRESENT ONE AND THA SAME TERMINAL STRIP ON THE TERMINAL BOARD.

NOTE2 STRAPS ARE INSERTED IN RADIOTELEPHONES WITOUT TONE EQUIPMENT.

NOTE 2 STRAPNINGER INDSÆTTES I ANLÆG UDEN TONEUDSTYR

LEDNINGSNUMRENE REFERERER TIL NUMRENE PÅ TERMINALBRÆDTET. TERMINAL NUMRENE PÅ ENHEDERNE ER DE SAMME SOM ANFØRT PÅ DE RESPEKTIVE DIAGRAMMER

NUMBERS USED IN CABLING REFER TO NUMBERS ON THE TERMINALBOARD. TERMINAL NUMBERS OF UNITS CONFORM TO THE TERMINAL NUMBERS USED ON THE DIAGRAMS OF THE VARIOUS UNITS.

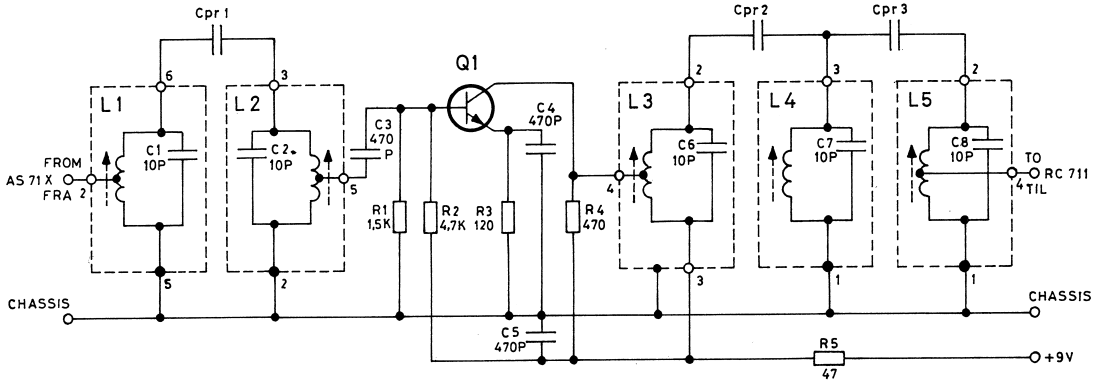
CABLING

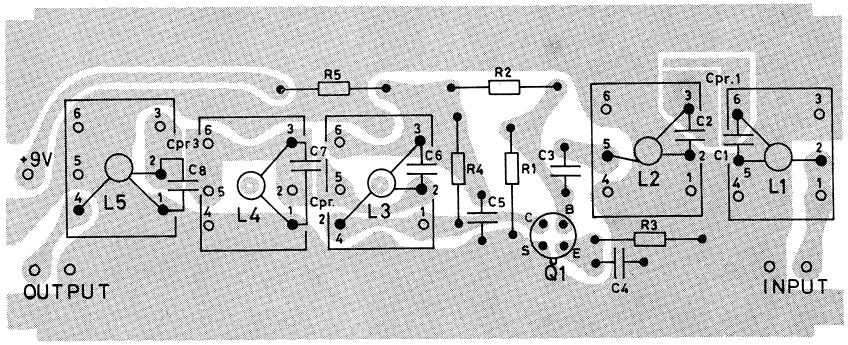
EXTENDED LOCAL CONTROLLED

CQM700a

D402.394

Storno





PRINTED CIRCUIT VIEWED FROM COMPONENT SIDE

RF-AMPLIFIER RA712

D402.183

Storno

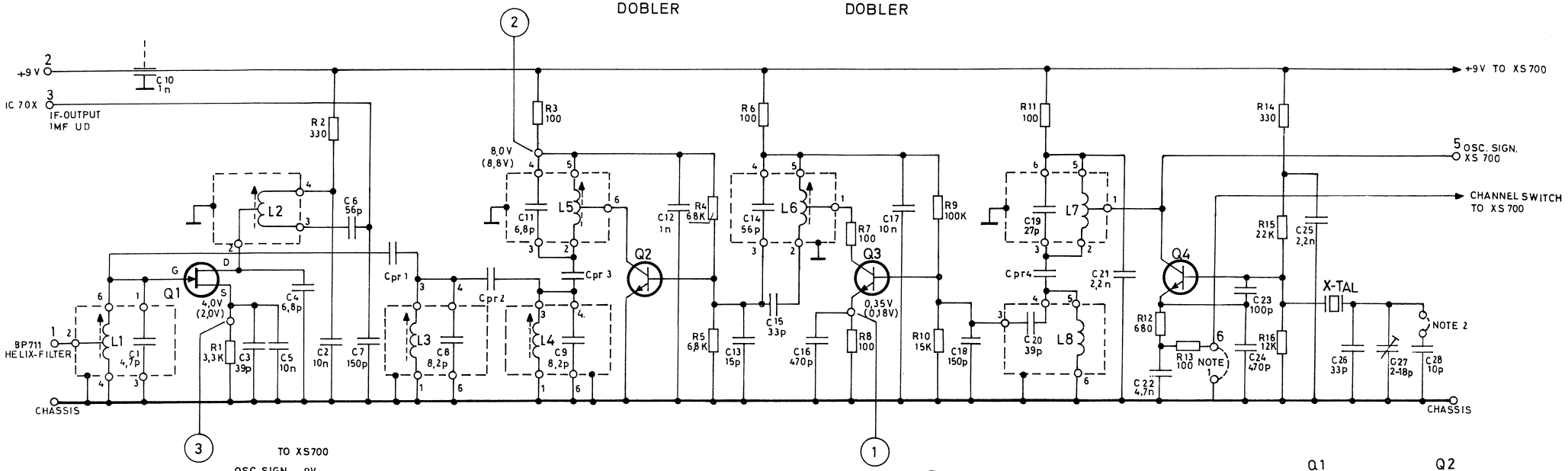
TYPE	Nº	CODE	DATA		
RA712		10.3256-00	RF Amplifier		
	C1	74.5135	10 pF 5%	ceram	125 V
	C2	74.5135	10 pF 5%	"	125 V
	C3	74.5161	470 pF -20 + 80%	"	63 V
	C4	74.5161	470 pF -20 + 80%	"	63 V
	C5	74.5161	470 pF -20 + 80%	"	63 V
	C6	74.5135	10 pF 5%	"	125 V
	C7	74.5135	10 pF 5%	"	125 V
	C8	74.5135	10 pF 5%	"	125 V
	R1	80.5251	1.5 KΩ 5%	carbon film	1/8 W
	R2	80.5257	4.7 KΩ 5%	"	1/8 W
	R3	80.5238	120 KΩ 5%	"	1/8 W
	R4	80.5245	470 Ω 5%	"	1/8 W
	R5	80.5233	47 Ω 5%	"	1/8 W
	L1	61.1315	RF coil 146 - 174 MHz		
	L2	61.1319	RF coil 146 - 174 MHz		
	L3	61.1316	RF coil 146 - 174 MHz		
	L4	61.1318	RF coil 146 - 174 MHz		
	L5	61.1317	RF coil 146 - 174 MHz		
	Q1	99.5240	Transistor	BFX89	

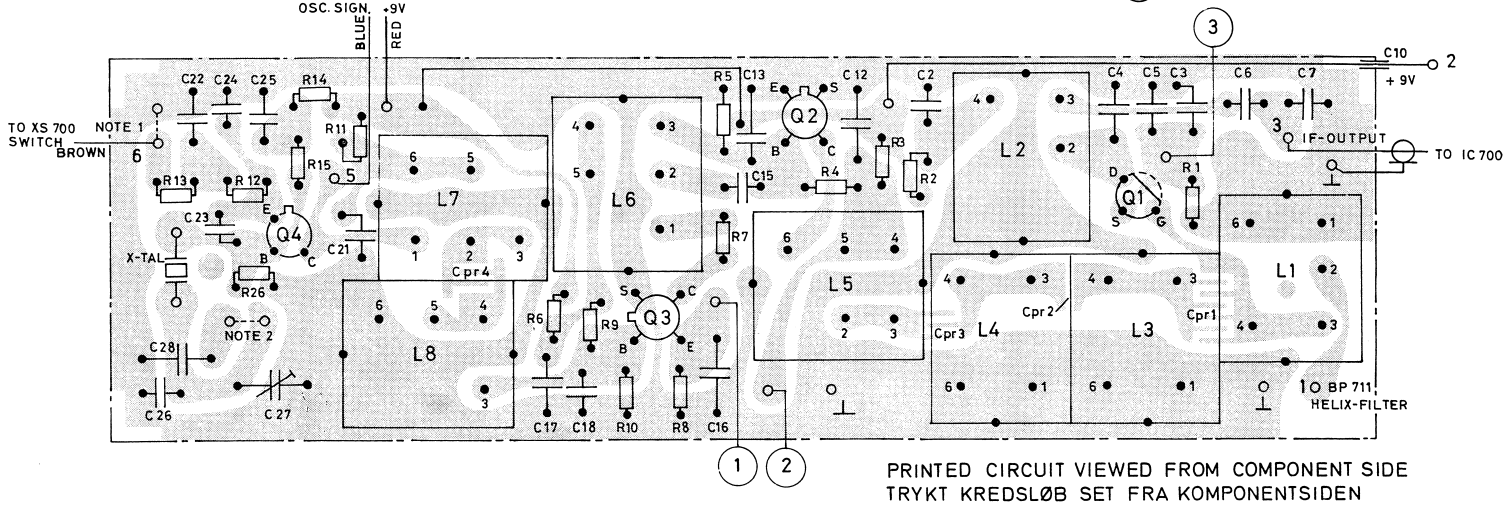
TYPE	Nº	CODE	DATA

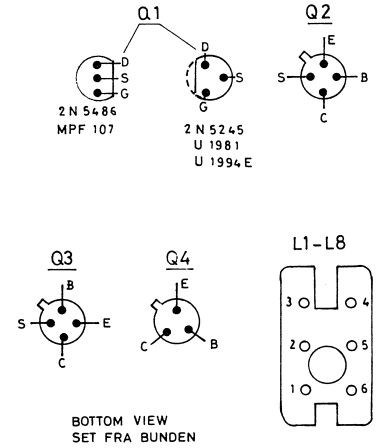
RF-AMPLIFIER RA712

X402.367

Storno **Storno**







PRINTED CIRCUIT VIEWED FROM COMPONENT SIDE
TRYKT KREDSLØB SET FRA KOMPONENTSIDEN

Cpr 1 - Cpr 4 ARE PRINTED CAPACITORS.

DC VOLTAGE WITHOUT BRACKETS ARE MEASURED WITH SIGNAL.
DC VOLTAGE WITH BRACKETS ARE MEASURED WITHOUT SIGNAL.

NOTE 1. STRAP FOR 1 CHANNEL.
NOTE 2. TO EXTEND THE LOWER RANGE OF FREQUENCY PULLING INSERT STRAP.

Cpr 1-4 ER I PRINTPLADEN.

DC SPÆNDINGER UDEN PARANTES ER MÅLT MED SIGNAL.
DC SPÆNDINGER MED PARANTES ER MÅLT UDEN SIGNAL.

NOTE 1 STRAPPES VED 1 KANAL.
NOTE 2 STRAPPES FOR STØRRE FREKVENSTRÆKNING NEDEFTER.

RECEIVER CONVERTER
MODTAGERKONVERTER

RC711

D401.342/2

TYPE	NO.	CODE	DATA		
RC711		10.2557	Receiver Converter		
	C1	74.5131	4.7 pF ± 0.25 pF	ceram DI	250 V
	C2	74.5109	10 nF -20 +80%	ceram PL	20 V
	C3	74.5117	39 pF 5%	ceram TB	160 V
	C4	74.5133	6.8 pF ± 0.25 pF	ceram DI	250 V
	C5	74.5109	10 nF -20 +80%	ceram PL	20 V
	C6	74.5111	56 pF 5%	ceram TB	160 V
	C7	76.5103	150 pF 2.5%	polystyr TB	25 V
	C8	74.5134	8.2 pF ± 0.25 pF	ceram DI	250 V
	C9	74.5134	8.2 pF ± 0.25 pF	ceram DI	250 V
	C10				
	C11	74.5133	6.8 pF ± 0.25 pF	ceram DI	250 V
	C12	74.5155	1 nF -20 +80%	ceram PL	63 V
	C13	74.5137	15 pF 5%	ceram DI	125 V
	C14	74.5111	56 pF 53	ceram TB	160 V
	C15	74.5116	33 pF 5%	ceram TB	160 V
	C16	74.5161	470 pF -20 +80%	ceram PL	63 V
	C17	74.5109	10 nF -20 +80%	ceram PL	20 V
	C18	76.5103	150 pF 2.5%	polystyr TB	25 V
	C19	74.5116	33 pF 5%	ceram TB	160 V
	C20	74.5116	33 pF 5%	ceram TB	160 V
	C21	76.5059	2.2 nF 10%	polyest FL	50 V
	C22	76.5061	4.7 nF 10%	polyest FL	50 V
	C23	76.5102	100 pF 2.5%	polystyr TB	25 V
	C24	76.5106	470 pF 2.5%	polystyr TB	25 V
	C25	76.5059	2.2 nF 10%	polyest FL	50 V
	C26	74.5191	33 pF 5%	ceram TB	160 V
	C27	78.5044	2-18 pF	trimmer	300 V
	C28	74.5135	10 pF 5%	ceram DI	125 V
	R1	80.5255	3.3 k ohm 5%	carbon film	1/8 W
	R2	80.5243	330 ohm 5%	carbon film	1/8 W
	R3	80.5237	100 ohm 5%	carbon film	1/8 W
	R4	80.5271	68 k ohm 5%	carbon film	1/8 W
	R5	80.5259	6.8 k ohm 5%	carbon film	1/8 W
	R6	80.5237	100 ohm 5%	carbon film	1/8 W
	R7	80.5237	100 ohm 5%	carbon film	1/8 W
	R8	80.5237	100 ohm 5%	carbon film	1/8 W
	R9	80.5273	0.1 M ohm 5%	carbon film	1/8 W
	R10	80.5263	15 k ohm 5%	carbon film	1/8 W
	R11	80.5237	100 ohm 5%	carbon film	1/8 W
	R12	80.5247	680 ohm 5%	carbon film	1/8 W
	R13	80.5237	100 ohm 5%	carbon film	1/8 W
	R14	80.5243	330 ohm 5%	carbon film	1/8 W
	R15	80.5265	22 k ohm 5%	carbon film	1/8 W
	R16	80.5262	12 k ohm 5%	carbon film	1/8 W

Storno

TYPE	NO.	CODE	DATA
	L1	61.1142	RF coil 146-174 MHz
	L2	61.1143	IF coil 10.7 MHz
	L3	61.1144	RF coil 135.3 - 163.3 MHz
	L4	61.1144	RF coil 135.3 - 163.3 MHz
	L5	61.1146	RF coil 135.3 - 163.3 MHz
	L6	61.1147	RF coil 67.65 - 81.65 MHz
	L7	61.1145	RF coil 33.8 - 40.8 MHz
	L8	61.1149	RF coil 33.8 - 40.8 MHz
	Q1	99.5245	2N5245 Transistor J-FET
	Q2	99.5217	2N918 Transistor
	Q3	99.5168	BF173 Transistor
	Q4	99.5139	BSX19 Transistor

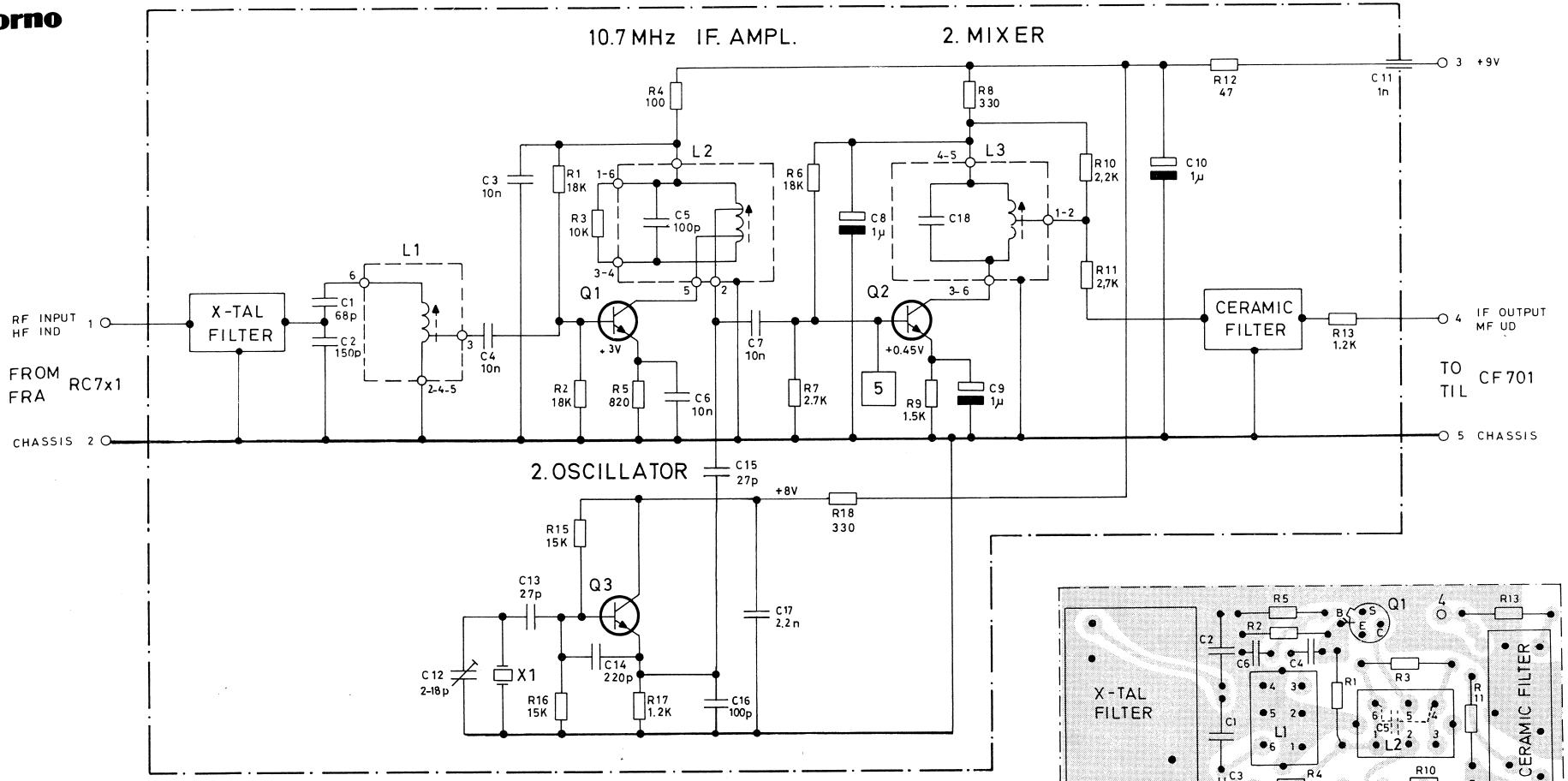
RECEIVER CONVERTER
MODTAGERKONVERTER

RC711

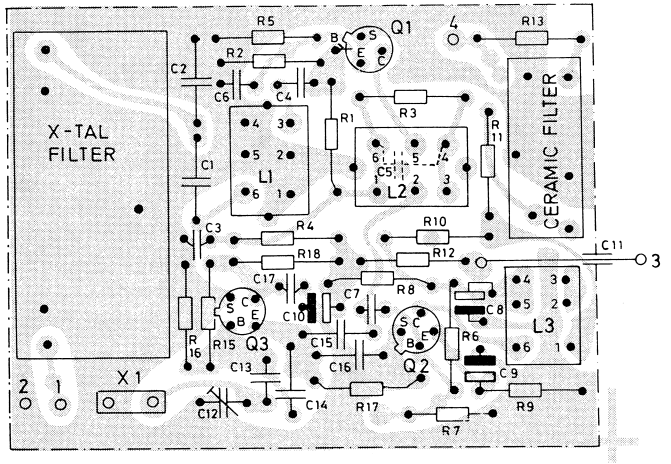
X401.382

Storno

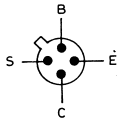
Storno



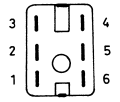
PRINTED CIRCUIT VIWED FROM COMPONENT SIDE
TRYKT KREDSLØB SET FRA KOMPONENTSIDEN.



Q1-Q3



L1-L2-L3



BOTTOM VIEW
SET FRA BUNDEN

IF CONVERTER
MF KONVERTER

IC703

D401.327/2

TYPE	NO.	CODE	DATA	
IC703		10.2432	IF Converter	
	C1	76.5101	68 pF 2.5% polystyr TB	25V
	C2	76.5103	150 pF 2.5% polystyr TB	25V
	C3	76.5070	10 nF 10% polyest. FL	50V
	C4	76.5070	10 nF 10% polyest. FL	50V
	C5	76.5102	100 pF 2.5% polystyr TB	25V
	C6	76.5070	10 nF 10% polyest. FL	50V
	C7	76.5070	10 nF 10% polyest. FL	50V
	C8	73.5114	1µF 20% tantal	35V
	C9	73.5114	1 µF 20% tantal	35V
	C10	73.5114	1 µF 20% tantal	35V
	C11	74.5167	1 nF -20 +80% ceram FT	300V
	C12	78.5044	2-18 pF trimmer	300V
	C13	74.5192	27 pF 5% ceram TB	160V
	C14	76.5104	220 pF 2.5% polystyr TB	25V
	C15	74.5107	27 pF 5% ceram TB	160V
	C16	76.5102	100 pF 2.5% polystyr TB	25V
	C17	76.5059	2.2 nF 10% polyest. FL	50V
	C18	76.5106	470 pF 2.5% polystyr	25V
	R1	80.5264	18 kΩ 5% carbon film	1/8W
	R2	80.5264	18 kΩ 5% " "	1/8W
	R3	80.5261	10 kΩ 5% " "	1/8W
	R4	80.5237	100 Ω 5% " "	1/8W
	R5	80.5248	820 Ω 5% " "	1/8W
	R6	80.5264	18 kΩ 5% " "	1/8W
	R7	80.5254	2.7 kΩ 5% " "	1/8W
	R8	80.5243	330 Ω 5% " "	1/8W
	R9	80.5254	2.7 kΩ 5% " "	1/8W
	R10	80.5234	56 Ω 5% " "	1/8W
	R11	80.5254	2.7KΩ 5% " "	1/8W
	R12	80.5233	47 Ω 5% " "	1/8W
	R13	80.5250	1.2 kΩ 5% " "	1/8W
	R15	80.5263	15 kΩ 5% " "	1/8W
	R16	80.5263	15 kΩ 5% " "	1/8W
	R17	80.5250	1.2 kΩ 5% " "	1/8W
	R18	80.5243	330 Ω 5% " "	1/8W
	L1	61.1122	IF coil 10.7 MHz	
	L2	61.1123	IF coil 10.7 MHz	
	L3	61.1302	IF coil 0.455 MHz	
	X1	98.5010	Crystal 10.2450 MHz Type 98-12	
	X1	98.5011	Crystal 11.1550 MHz Type 98-12	
		69.5016	Crystal Filter 10.7 MHz	
		69.5031	Ceramic Filter 455 kHz	

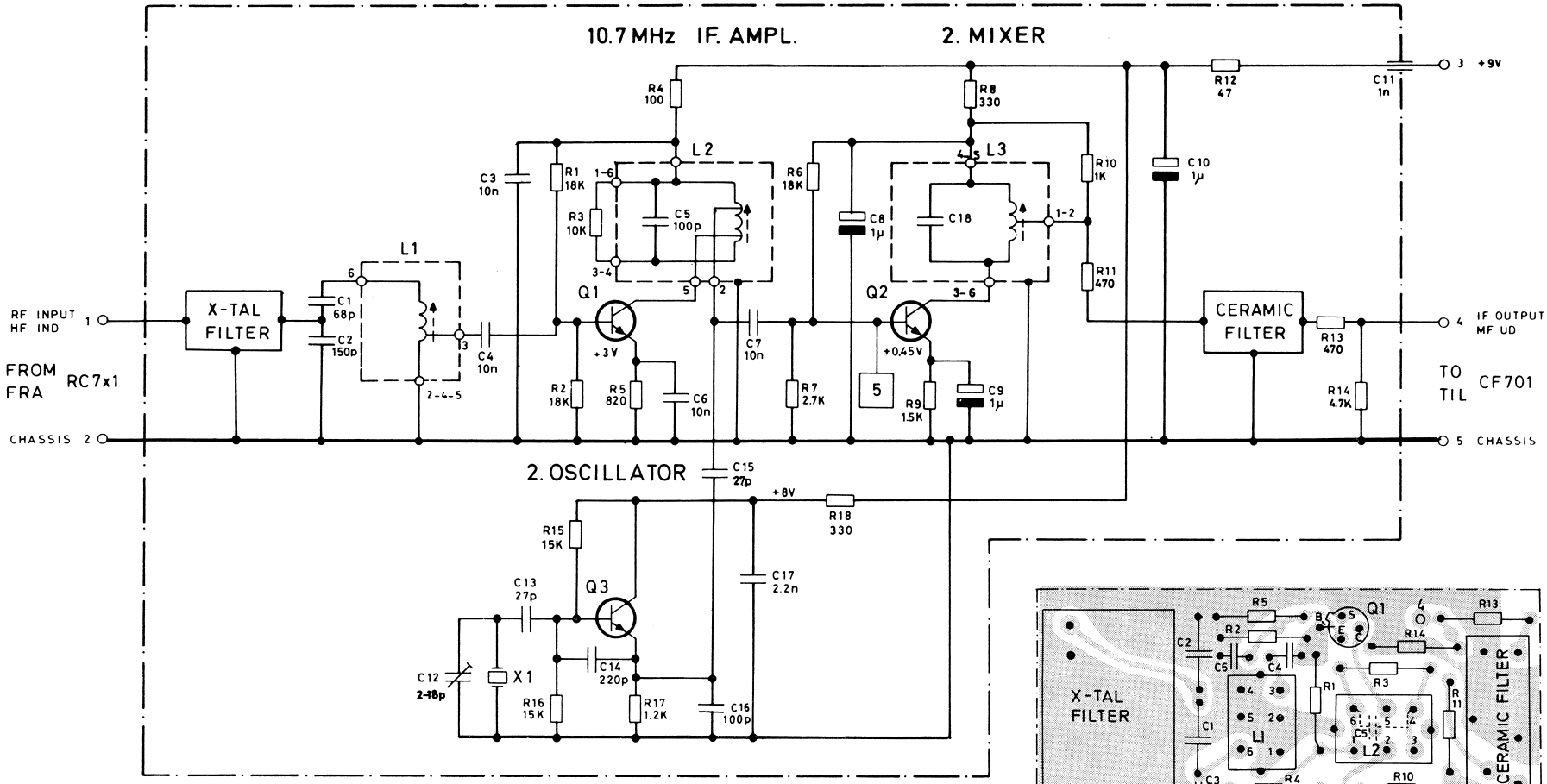
Storno

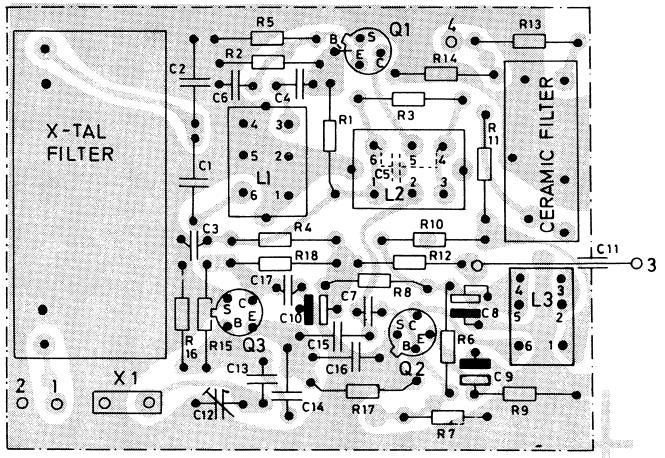
TYPE	NO.	CODE	DATA
	Q1	99.5168	BF173 Transistor
	Q2	99.5166	BF167 Transistor
	Q3	99.5168	BF173 Transistor

IF CONVERTER IC703

X401.314/4

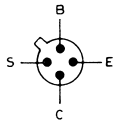
Storno



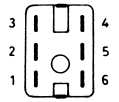


PRINTED CIRCUIT VIEWED FROM COMPONENT SIDE
TRYKT KREDSLØB SET FRA KOMPONENTSIDEN

Q1-Q3



L1-L2-**L3**



BOTTOM VIEW
SET FRA BUNDEN

IF CONVERTER
MF KONVERTER

IC704

D401.365/3

TYPE	NO.	CODE	DATA	
IC704		10.2517	IF Converter	
	C1	76.5101	68 pF 2.5% polystyr TB	25V
	C2	76.5103	150 pF 2.5% polystyr TB	25V
	C3	76.5070	10 nF 10% polyest. FL	50V
	C4	76.5070	10 nF 10% polyest. FL	50V
	C5	76.5102	100 pF 2.5% polystyr TB	25V
	C6	76.5070	10 nF 10% polyest. FL	50V
	C7	76.5070	10 nF 10% polyest. FL	50V
	C8	73.5114	1 µF 20% tantal	35V
	C9	73.5114	1 µF 20% tantal	35V
	C10	73.5114	1 µF 20% tantal	35V
	C11	74.5167	1 nF -20 +80% ceram FT	300V
	C12	78.5044	2-18 pF trimmer	300V
	C13	74.5192	27 pF 5% ceram TB	160V
	C14	76.5104	220 pF 2.5% polystyr TB	25V
	C15	74.5107	27 pF 5% ceram TB	160V
	C16	76.5102	100 pF 2.5% polystyr TB	25V
	C17	76.5059	2.2 nF 10% polyest. FL	50V
	C18	76.5106	470 pF 2.5% polystyr	25V
	R1	80.5264	18 kΩ 5% carbon film	1/8W
	R2	80.5264	18 kΩ 5% " "	1/8W
	R3	80.5261	10 kΩ 5% " "	1/8W
	R4	80.5237	100 Ω 5% " "	1/8W
	R5	80.5248	820 Ω 5% " "	1/8W
	R6	80.5264	18 kΩ 5% " "	1/8W
	R7	80.5254	2.7 kΩ 5% " "	1/8W
	R8	80.5243	330 Ω 5% " "	1/8W
	R9	80.5251	1.5 kΩ 5% " "	1/8W
	R10	80.5249	1 kΩ 5% " "	1/8W
	R11	80.5245	470 Ω 5% " "	1/8W
	R12	80.5233	47 Ω 5% " "	1/8W
	R13	80.5245	470 Ω 5% " "	1/8W
	R14	80.5257	4.7 kΩ 5% " "	1/8W
	R15	80.5263	15 kΩ 5% " "	1/8W
	R16	80.5263	15 kΩ 5% " "	1/8W
	R17	80.5250	1.2 kΩ 5% " "	1/8W
	R18	80.5243	330 Ω 5% " "	1/8W
	L1	61.1122	IF coil 10.7 MHz	
	L2	61.1123	IF coil 10.7 MHz	
	L3	61.1302	IF coil 0.455 MHz	
	X1	98.5010	Crystal 10.2450 MHz Type 98-12	
	X1	98.5011	Crystal 11.1550 MHz Type 98-12	

Storno

TYPE	NO.	CODE	DATA
		69.5018	Crystal Filter 10.7 MHz
		69.5014-00	Ceramic Filter 455 kHz
	Q1	99.5168	BF173 Transistor
	Q2	99.5166	BF167 Transistor
	Q3	99.5168	BF173 Transistor

IF CONVERTER
MF KONVERTER
IC704

X401.795/2

Storno

Storno

MODULATION AMPLIFIER
MODULATIONSFORSTÆRKER

PREAMPLIFIER
FORSTÆRKER

UPPER PRINTED CIRCUIT BOARD

SQUELCH

NOTE 1

OUTPUT MOD. UD 23

INPUT MOD. IND 22

LINE OUT -17 dBm 18

AF MUTING 20

VOLUME PREADJ.

IC 1a · IC 1b · IC 2a · IC 2b

Q1 · Q2 · Q3 · Q4 · Q5 · Q6 · Q7 · Q8 · Q9

NOTE 2 · NOTE 4 · NOTE 5

16 SQ SIGNAL

21 RX BLOCKING
RX BLOK

17 SQ CANCEL
SQ ANNUL.

19 TELEPHONE
≈ 90 mV

NOTES:

1 : 23 IS NORMAL OUTPUT. IF ΔF IS NOT ADJUSTABLE USE 24 AND REMOVE C8.

2 : COMPONENTS SHOWN IN DOTTED LINE APPLY TO CF 704 ONLY.

3 : REMOVE Q 23 IN 704 AND STRAP THE EMITTER - COLLECTOR TERMINALS.

4 : CF 703 ONLY.

5 : VALUES IN PARENTHESISES ARE VALID FOR 12,5 KHz EQUIPMENT AND SWEDISH EQUIPMENT ONLY.

CONDITIONS OF MEASUREMENTS :

T ~ TRANSMITTER KEYED CONDITION.

S ~ SQUELCHED CONDITION.

○ ~ USE A HIGH - RESISTANCE VOLTMETER (2 MΩ)

□ ~ MEASURED AT ΔF = 0KHz

RX VOLTAGE REGULATOR
SPÆNDINGSREGULATOR RX

TX VOLTAGE REGULATOR
SPÆNDINGSREGULATOR TX

LOWER PRINTED CIRCUIT BOARD

+ 9V RX 6

+ 9V TX 5

CONTIN. + 12 V KONST. +12V FILTERED ACC. + 12V AKK. 15 · 7 · J2a

START 1 · 2

KEY TAST 4

KEY BLOCKING BLOKERING TAST 3

– BATT. J2b

+12V TRANSMIT LAMP IF INPUT MF IND 11

Q29 TRANSMIT LAMP SWITCH

IF AMPLIFIER AND DISCRIMINATOR
MF FORSTÆRKER OG DETEKTOR

AF AMPLIFIER
LF FORSTÆRKER

VOLUME CONTROL PLACED OUTSIDE THE UNIT.

REMOTE FJERN

LOCAL LOKAL

IC 3 · IC 4

12

10

13 ALERTING ALARMTONE

8 AF OUTPUT LF UD

9 LS CHASSIS HT - STEL

14 VOL. - CHASSIS STYRKE - STEL

Q2,3,4,5,6,7,8
Q9,22,23,26,27
Q28,29,32

Q1,21,25

Q30,31

Q20,24

IC 1,2

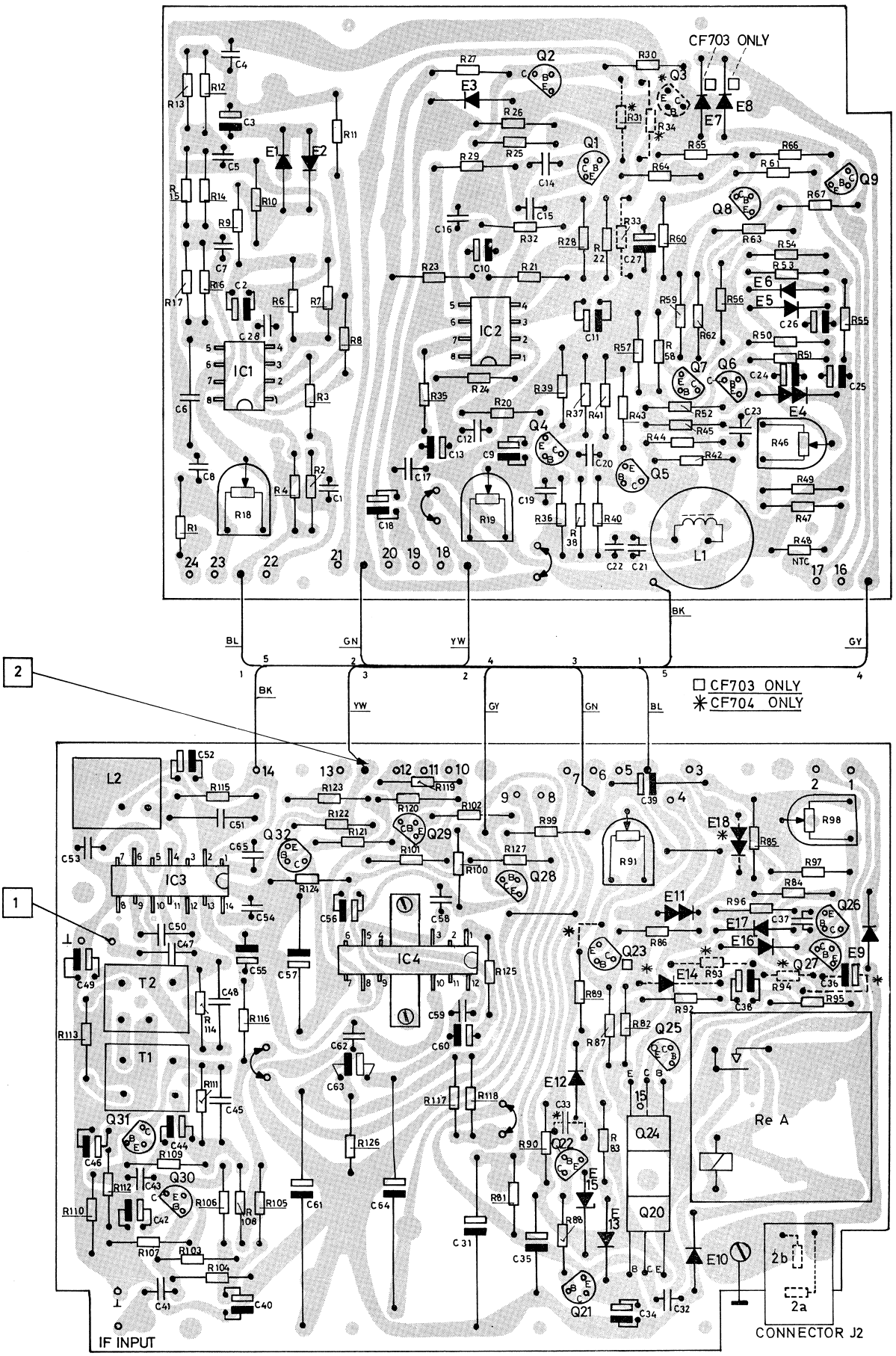
IC 3

IC 4

COMMON FUNCTIONS
CF 703 / CF 704

D402.240/6

Storno



COMMON FUNCTIONS UNIT CF703, CF704

D402.354

TYPE	Nº	CODE	DATA
CF703		10.3364-00	Common Functions
CF704		10.3499	Common Functions
	C1	76.5070	10 nF 10% polyest FL 50 V
	C2	73.5127	22 µF 20% tantal 16 V
	C3	73.5126	4.7 µF 20% " 35 V
	C4	76.5072	47 nF 10% polyest FL 50 V
	C5	76.5060	3.3 nF 10% " 50 V
	C6	76.5063	220 pF 5% polystyr TB 160 V
	C7	76.5070	10 nF 10% polyest FL 50 V
	C8	76.5072	47 nF 10% " FL 50 V
	C9	73.5114	1 µF 20% tantal 35 V
	C10	73.5127	22 µF 20% " 16 V
	C11	73.5102	2.2 µF 20% " 35 V
	C12	76.5071	22 nF 10% polyest FL 50 V
	C13	73.5114	1 µF 20% tantal 35 V
	C14	76.5072	47 nF 10% polyest FL 50 V
	C15	76.5072	47 nF 10% " FL 50 V
	C16	76.5061	4.7 nF 10% " FL 50 V
	C17	74.5155	1 nF -20 + 80% ceram PL 63 V
	C18	73.5102	2.2 µF 20% tantal 35 V
	C19	76.5070	10 nF 10% polyest FL 50 V
	C20	76.5070	10 nF 10% " FL 50 V
	C21	76.5060	3.3 nF 10% " FL 50 V
	C22	76.5060	3.3 nF 10% " FL 50 V
	C23	76.5072	47 nF 10% " FL 50 V
	C24	73.5126	4.7 µF 20% tantal 35 V
	C25	73.5127	22 µF 20% " 16 V
	C26	73.5125	0.47 µF 20% " 35 V
	C27	73.5125	0.47 µF 20% " 35 V
	C28	74.5161	470 pF -20 + 80% ceram 63 V
	C31	73.5071	100 µF -10 + 50% elko 40 V
	C32	76.5072	47 nF 10% polyest FL 50 V
CF704	C33	74.5187	39 pF 10% ceram PL 25 V
	C34	73.5114	1 µF 20% tantal 35 V
	C35	73.5011	10 µF -10 + 100% elko 16 V
CF704	C36	73.5114	1 µF 20% tantal 35 V
	C37	74.5187	39 pF 10% ceram PL 25 V
	C38	73.5114	1 µF 20% tantal 35 V
	C39	73.5011	10 µF -10 +50% elko 16 V
	C40	73.5114	1 µF 20% tantal 35 V
	C41	76.5071	22 nF 10% polyest FL 50 V
	C42	73.5114	1 µF 20% tantal 35 V
	C43	76.5071	22 nF 10% polyest FL 50 V
	C44	73.5115	1 µF 20% tantal 35 V
	C45	76.5067	1 nF 5% polystyr TB 160 V
	C46	73.5114	1 µF 20% tantal 35 V
	C47	74.5341	68 pF ceram PL 63 V
	C48	76.5067	1 nF 5% polystyr TB 160 V

Storno

TYPE	Nº	CODE	DATA
	C49	73.5114	1 µF 20% tantal 35 V
	C50	74.5341	68 pF ceram 63 V
	C51	76.5067	1 nF 5% polystyr TB 160 V
	C52	73.5114	1 µF 20 % tantal 35 V
	C53	76.5072	47 nF 10% polyest FL 50 V
	C54	76.5069	1 nF 10% " FL 50 V
	C55	73.5106	68 µF 20% tantal 16 V
	C56	73.5127	22 µF 20% " 16 V
	C57	73.5151	100 µF -10 + 50% elko 16 V
	C58	76.5071	22 nF 10% polyest FL 50 V
	C59	76.5059	2.2 nF 10% " FL 50 V
	C60	73.5127	22 µF 20% tantal 16 V
	C61	73.5138	470 µF -10 + 100% elko 25 V
	C62	76.5072	47 nF 10% polyest FL 50 V
	C63	76.5072	47 nF 10% " FL 50 V
	C64	73.5137	470 µF -10 + 50% elko 16 V
	C65	76.5072	47 nF 10% polyest FL 50 V
	R1	80.5257	4.7 KΩ 5% carbon film 1/8 W
	R2	80.5246	560 Ω 5% " 1/8 W
	R3	80.5254	2.7 KΩ 5% " 1/8 W
	R4	80.5233	47 Ω 5% " 1/8 W
	R6	80.5283	680 KΩ 5% carbon film 1/8 W
	R7	80.5284	820 KΩ 5% trim. carbon 0.1 W
	R8	80.5280	390 KΩ 5% carbon film 1/8 W
	R9	80.5248	820 Ω 5% " 1/8 W
	R10	80.5248	820 Ω 5% " 1/8 W
	R11	80.5266	27 KΩ 5% " 1/8 W
	R12	80.5267	33 KΩ 5% " 1/8 W
	R13	80.5273	100 KΩ 5% " 1/8 W
	R14	80.5278	39 KΩ 5% " 1/8 W
	R15	80.5270	56 KΩ 5% " 1/8 W
	R16	80.5270	56 KΩ 5% " 1/8 W
	R17	80.5273	100 KΩ 5% " 1/8 W
	R18	86.5050	5 KΩ 20% trim carbon 1/8 W
	R19	86.5043	2.2 KΩ 20% " 0.1 W
	R20	80.5250	1.2 KΩ 5% carbon film 1/8 W
	R21	80.5277	220 KΩ 5% " 1/8 W
	R22	80.5278	270 KΩ 5% " 1/8 W
	R23	80.5242	270 Ω 5% " 1/8 W
	R24	80.5242	270 Ω 5% " 1/8 W

COMMON FUNCTIONS CF703, CF704

X402.429/2

TYPE	Nº	CODE	DATA			
CF703		10.3364-00	Common Functions			
	R25	80.5268	39 KΩ	5%	carbon film	1/8 W
	R26	80.5263	15 KΩ	5%	"	1/8 W
	R27	80.5267	33 KΩ	5%	"	1/8 W
	R28	80.5266	27 KΩ	5%	"	1/8 W
	R29	80.5262	12 KΩ	5%	"	1/8 W
	R30	80.5264	18 KΩ	5%	"	1/8 W
	R31	80.5269	47 KΩ	5%	"	1/8 W
	R32	80.5258	5.6 KΩ	5%	"	1/8 W
CF704	R33	80.5261	10 KΩ	5%	"	1/8 W
CF704	R34	80.5264	18 KΩ	5%	"	1/8 W
	R35	80.5249	1 KΩ	5%	"	1/8 W
	R36	80.5275	150 KΩ	5%	"	1/8 W
	R37	80.5264	18 KΩ	5%	"	1/8 W
	R38	80.5257	4.7 KΩ	5%	"	1/8 W
	R39	80.5244	390 Ω	5%	"	1/8 W
	R40	80.5269	47 KΩ	5%	"	1/8 W
	R41	80.5265	22 KΩ	5%	"	1/8 W
	R42	80.5264	18 KΩ	5%	"	1/8 W
	R43	80.5243	330 Ω	5%	"	1/8 W
	R44	80.5261	10 KΩ	5%	"	1/8 W
	R45	80.5278	270 KΩ	5%	"	1/8 W
	R46	86.5044	25 KΩ	5%	trim carbon	0.1 W
	R47	80.5263	15 KΩ	5%	carbon film	1/8 W
	R48	89.5010	15 KΩ	20%	NTC	0.6 W
	R49	80.5266	27 KΩ	5%	carbon film	1/8 W
	R50	80.5238	120 Ω	5%	"	1/8 W
	R51	80.5245	470 Ω	5%	"	1/8 W
	R52	80.5248	820 Ω	5%	"	1/8 W
	R53	80.5256	3.9 KΩ	5%	"	1/8 W
	R54	80.5269	47 KΩ	5%	"	1/8 W
	R55	80.5280	390 KΩ	5%	"	1/8 W
	R56	80.5261	10 KΩ	5%	"	1/8 W
	R57	80.5262	12 KΩ	5%	"	1/8 W
	R58	80.5266	27 KΩ	5%	"	1/8 W
	R59	80.5266	27 KΩ	5%	"	1/8 W
	R60	80.5265	22 KΩ	5%	"	1/8 W
	R61	80.5238	120 Ω	5%	"	1/8 W
	R62	80.5252	1.8 KΩ	5%	"	1/8 W
	R63	80.5243	330 Ω	5%	"	1/8 W
	R64	80.5258	5.6 KΩ	5%	"	1/8 W
	R65	80.5265	22 KΩ	5%	"	1/8 W
	R66	80.5263	15 KΩ	5%	"	1/8 W
	R67	80.5240	180 Ω	5%	"	1/8 W
	R81	80.5229	22 Ω	5%	"	1/8 W
	R82	80.5254	2.7 KΩ	5%	"	1/8 W
	R83	80.5249	1 KΩ	5%	"	1/8 W

Storno

TYPE	Nº	CODE	DATA			
CF703		10.3364-00	Common Functions			
	R84	80.5257	4.7 KΩ	5%	carbon film	1/8 W
	R85	80.5265	22 KΩ	5%	"	1/8 W
	R86	80.5264	18 KΩ	5%	"	1/8 W
	R87	80.5262	12 KΩ	5%	"	1/8 W
	R88	80.5272	82 KΩ	5%	"	1/8 W
	R89	80.5254	2.7 KΩ	5%	"	1/8 W
	R90	80.5258	5.6 KΩ	5%	"	1/8 W
	R91	86.5039	10 KΩ	20%	trim carbon	1/8 W
	R92	80.5258	5.6 KΩ	5%	carbon film	1/8 W
CF704	R93	80.5258	5.6 KΩ	5%	"	1/8 W
CF704	R94	80.5274	120 KΩ	5%	"	1/8 W
	R95	80.5268	39 KΩ	5%	"	1/8 W
	R96	80.5254	2.7 KΩ	5%	"	1/8 W
	R97	80.5258	5.6 KΩ	5%	"	1/8 W
	R98	86.5039	10 KΩ	20%	trim carbon	1/8 W
	R99	80.5268	39 KΩ	5%	carbon film	1/8 W
	R100	80.5266	27 KΩ	5%	"	1/8 W
	R101	80.5261	10 KΩ	5%	"	1/8 W
	R102	80.5256	3.9 KΩ	5%	"	1/8 W
	R103	80.5260	8.2 KΩ	5%	"	1/8 W
	R104	80.5254	2.7 KΩ	5%	"	1/8 W
	R105	80.5246	560 Ω	5%	"	1/8 W
	R106	80.5255	3.3 KΩ	5%	"	1/8 W
	R107	80.5249	1 KΩ	5%	"	1/8 W
	R108	80.5259	6.8 KΩ	5%	"	1/8 W
	R109	80.5253	2.2 KΩ	5%	"	1/8 W
	R110	80.5258	5.6 KΩ	5%	"	1/8 W
	R111	80.5257	4.7 KΩ	5%	"	1/8 W
	R112	80.5249	1 KΩ	5%	"	1/8 W
	R113	80.5218	2.7 Ω	5%	"	1/8 W
	R114	80.5258	5.6 KΩ	5%	"	1/8 W
	R115	80.5254	2.7 KΩ	5%	"	1/8 W
	R116	80.5230	27 Ω	5%	"	1/8 W
	R117	80.5217	2.2 Ω	5%	"	1/8 W
	R118	80.5217	2.2 Ω	5%	"	1/8 W
	R119	80.5261	10 KΩ	5%	"	1/8 W
	R120	80.5256	3.9 KΩ	5%	"	1/8 W
	R121	80.5265	22 KΩ	5%	"	1/8 W
	R122	80.5264	18 KΩ	5%	"	1/8 W
	R123	80.5273	100 KΩ	5%	"	1/8 W

COMMON FUNCTIONS CF703, CF704

X402.429/3

TYPE	Nº	CODE	DATA
	R124	80.5230	27 Ω 5% carbon film 1/8 W
	R125	80.5237	100 Ω 5% " 1/8 W
	R126	80.5213	1 Ω 5% " 1/8 W
	R127	80.5252	1.8 KΩ 5% " 1/8 W
	R129	80.5262	12 kohm 5% carbon film 1/8W
	L1	61.1132	Squelch coil 75 mH
	L2	61.1131	IA coil 455 kHz
	E1	99.5237	1 N 4148 Diode
	E2	99.5237	1 N 4148 "
	E3	99.5042	Zenerdiode 9.1 V 5% 0.25 W
	E4	99.5209	Stabilizerdiode 1.5 V
	E5	99.5237	1 N 4148 Diode
	E6	99.5237	1 N 4148 "
	E7	99.5237	1 N 4148 "
	E8	99.5237	1 N 4148 "
	E9	99.5020	1 N 4004 "
	E10	99.5237	1 N 4148 "
	E11	99.5209	Stabilizerdiode 1.5 V
	E12	99.5237	1 N 4148 Diode
	E13 E14	99.5237	1 N 4148 "
	E15	99.5224	Zenerdiode 4.7 V 5% 0.25 W
	E16	99.5237	1 N 4148 Diode
	E17	99.5224	Zenerdiode 4.7 V 5% 0.25 W
	E18	99.5209	1.5 V Stab. diode
	Q1	99.5144	Transistor BC 214 L
	Q2	99.5143	" BC 238 (BC 108)
CF704	Q3	99.5143	" BC 238 (BC 108)
	Q4	99.5143	" BC 238 (BC 108)
	Q5	99.5143	" BC 238 (BC 108)
	Q6	99.5201	" BC 239 (BC 109)
	Q7	99.5115	" BC 309 (BC 179)
	Q8	99.5115	" BC 309 (BC 179)
	Q9	99.5143	" BC 238 (BC 108)
	Q20	99.5246	" TIP 31
	Q21	99.5144	" BC 214 L
	Q22	99.5143	" BC 238 (BC 108)
	Q23	99.5143	" BC 238 (BC 108)
	Q24	99.5246	" TIP 31
	Q25	99.5144	" BC 214 L
	Q26	99.5143	" BC 238 (BC 108)
	Q27	99.5143	" BC 238 (BC 108)
	Q28	99.5143	" BC 238 (BC 108)
	Q29	99.5115	" BC 309 (BC 179
	Q30	99.5326	" BF 198
	Q31	99.5326	" BF 198
	Q32	99.5143	BC238
	T1	61.1130	IA transformer 455 kHz

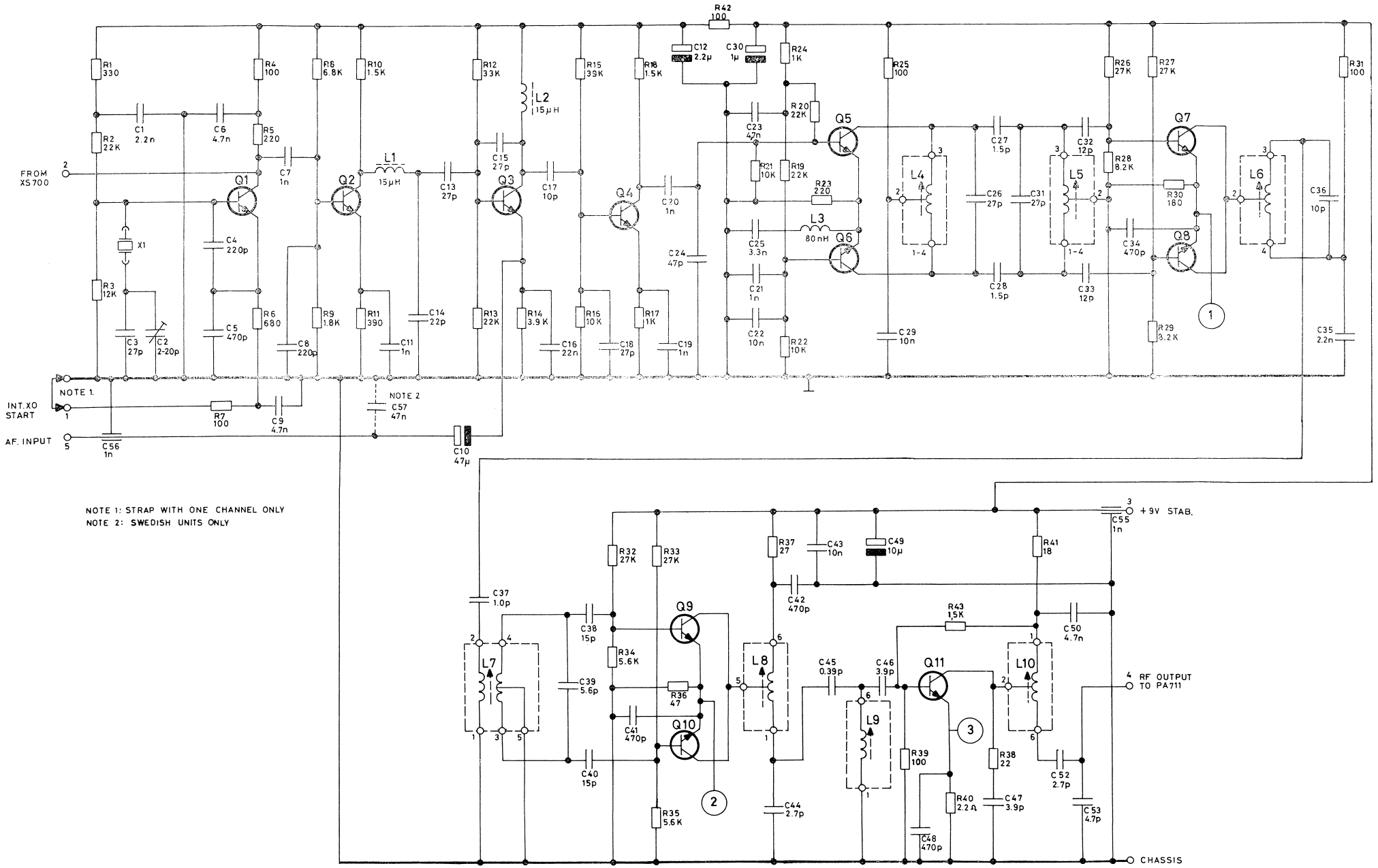
TYPE	Nº	CODE	DATA
	T2	61.1130	IA transformer 455 kHz
	IC1	14.5105	MC1458 Dual OP-amp.
	IC2	14.5105	MC1458 Dual OP-amp
	IC3	14.5010	IF Amplifier/Discr. ULN 2111 N
	IC4	14.5104	Audio Power Amplifier TBA 810 AS
	ReA	58.5084	Relay 330 Ω 12 V

COMMON FUNCTIONS CF703, CF704

X402.429/3

Storno

Storno

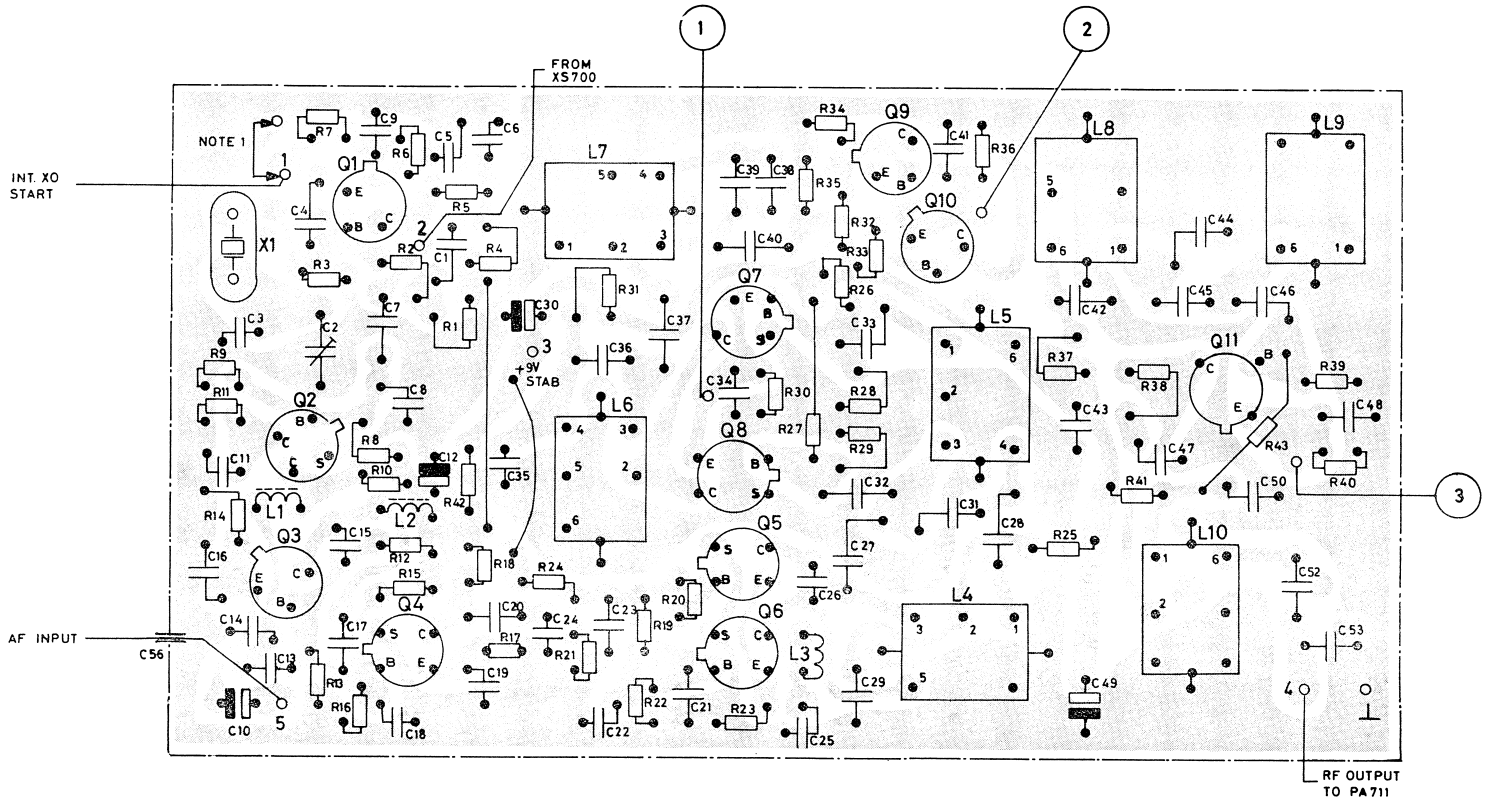


NOTE 1: STRAP WITH ONE CHANNEL ONLY
NOTE 2: SWEDISH UNITS ONLY

EXCITER EX711

D401.361/2

Storno



PRINTED CIRCUIT VIEWED FROM COMPONENT SIDE

EXCITER EX711

D401.521/2

TYPE	NO.	CODE	DATA	
EX711		10.2570	Exciter Unit	
	C1	76.5059	2.2 nF 10% polyest. FL	50V
	C2	78.5046	2-20 pF trimmer	
	C3	74.5192	27 pF 5% ceram TB	160V
	C4	76.5104	220 pF 2.5% polystyr TB	25V
	C5	76.5106	470 pF 2.5% polystyr TB	25V
	C6	76.5061	4.7 nF 10% polyest FL	50V
	C7	74.5155	1 nF -20 +80% ceram PL	63V
	C8	76.5104	220 pF 2.5% polystyr TB	25V
	C9	76.5061	4.7 nF 10% polyest. FL	50V
	C10	73.5124	47 µF 20% tantal	6.3V
	C11	76.5069	1 nF 10% polyest. FL	50V
	C12	73.5129	2.2 µF -20 +50% tantal	10V
	C13	74.5107	27 pF 5% ceram	160V
	C14	74.5106	22 pF 5% ceram	160V
	C15	74.5107	27 pF 5% ceram	160V
	C16	76.5071	22 nF 10% polyest. FL	50V
	C17	74.5135	10 pF 5% ceram DI	250V
	C18	74.5107	27 pF 5% ceram	160V
	C19	76.5069	1 nF 10% polyest. FL	50V
	C20	74.5155	1 nF -20 +80% ceram PL	63V
	C21	74.5155	1 nF -20 +80% ceram PL	63V
	C22	76.5070	10 nF 10% polyest FL	50V
	C23	76.5061	4.7 nF 10% polyest. FL	50V
	C24	74.5186	47 pF 10% ceram PL	25V
	C25	76.5060	3.3 nF 10% polyest. FL	50V
	C26	74.5107	27 pF 5% ceram	160V
	C27	74.5125	1.5 pF ±0.25 pF ceram BD	250V
	C28	74.5125	1.5 pF ±0.25 pF ceram BD	250V
	C29	76.5070	10 nF 10% polyest. FL	50V
	C30	73.5135	1 µF -20 +50% tantal	16V
	C31	74.5107	27 pF 5% ceram	160V
	C32	74.5136	12 pF 5% ceram DI	250V
	C33	74.5136	12 pF 5% ceram DI	250V
	C34	74.5161	470 pF -20 +80% ceram PL	63V
	C35	76.5059	2.2 nF 10% polyest FL	50V
	C36	74.5135	10 pF 5% ceram DI	250V
	C37	74.5123	1.0 pF ±0.25 pF ceram BD	250V
	C38	74.5137	15 pF 5% ceram DI	125V
	C39	74.5132	5.6 pF ±0.25 pF ceram DI	250V
	C40	74.5137	15 pF 5% ceram DI	125V
	C41	74.5161	470 pF -20 +80% ceram PL	63V
	C42	74.5161	470 pF -20 +80% ceram PL	63V
	C43	76.5070	10 nF 10% polyest. PL	50V
	C44	74.5128	2.7 pF ±0.25 pF ceram DI	250V
	C45	74.5120	0.39 pF ±0.1 pF ceram BD	250V
	C46	74.5130	3.9 ±0.25 pF ceram DI	250V

Storno

TYPE	NO.	CODE	DATA	
	C47	74.5130	3.9 pF ±0.25 pF ceram DI	250V
	C48	74.5161	470 pF -20 +80% ceram PL	63V
	C49	73.5109	10 µF 20% tantal	16V
	C50	76.5061	4.7 nF 10% polyest. FL	50V
	C51			
	C52	74.5128	2.7 pF ±0.25 pF ceram DI	250V
	C53	74.5131	4.7 pF ±0.25 pF ceram DI	250V
	C54			
	C55	74.5167	1 nF -20 +80% ceram FT	300V
	C56	74.5167	1 nF -20 +80% ceram FT	300V
	C57	76.5072	47nF 10% Polyest. FL(Swedish units only)	50V
	R1	80.5243	330 Ω 5% carbon film	1/8W
	R2	80.5265	22 kΩ 5% " "	1/8W
	R3	80.5262	12 kΩ 5% " "	1/8W
	R4	80.5237	100 Ω 5% " "	1/8W
	R5	80.5241	220 Ω 5% " "	1/8W
	R6	80.5247	680 Ω 5% " "	1/8W
	R7	80.5237	100 Ω 5% " "	1/8W
	R8	80.5259	6.8 kΩ 5% " "	1/8W
	R9	80.5252	1.8 kΩ 5% " "	1/8W
	R10	80.5251	1.5 kΩ 5% " "	1/8W
	R11	80.5244	390 Ω 5% " "	1/8W
	R12	80.5267	33 kΩ 5% " "	1/8W
	R13	80.5265	22 kΩ 5% " "	1/8W
	R14	80.5256	3.9 kΩ 5% " "	1/8W
	R15	80.5268	39 kΩ 5% " "	1/8W
	R16	80.5261	10 kΩ 5% " "	1/8W
	R17	80.5249	1 kΩ 5% " "	1/8W
	R18	80.5251	1.5 kΩ 5% " "	1/8W
	R19	80.5265	22 kΩ 5% " "	1/8W
	R20	80.5265	22 kΩ 5% " "	1/8W
	R21	80.5261	10 kΩ 5% " "	1/8W
	R22	80.5261	10 kΩ 5% " "	1/8W
	R23	80.5241	220 Ω 5% " "	1/8W
	R24	80.5249	1 kΩ 5% " "	1/8W
	R25	80.5237	100 Ω 5% " "	1/8W
	R26	80.5266	27 kΩ 5% " "	1/8W
	R27	80.5266	27 kΩ 5% " "	1/8W
	R28	80.5260	8.2 kΩ 5% " "	1/8W
	R29	80.5260	8.2 kΩ 5% " "	1/8W
	R30	80.5240	180 Ω 5% " "	1/8W
	R31	80.5237	100 Ω 5% " "	1/8W
	R32	80.5266	27 kΩ 5% " "	1/8W

EXCITER UNIT
STYRESENDER

EX711

X401.371/2

TYPE	NO.	CODE	DATA
	R33	80.5266	27 kΩ 5% carbon film 1/8W
	R34	80.5258	5.6 kΩ 5% " " 1/8W
	R35	80.5258	5.6 kΩ 5% " " 1/8W
	R36	80.5233	47 Ω 5% " " 1/8W
	R37	80.5230	27 Ω 5% " " 1/8W
	R38	80.5229	22 Ω 5% " " 1/8W
	R39	80.5237	100 Ω 5% " " 1/8W
	R40	80.5217	2.2 Ω 5% " " 1/8W
	R41	80.5228	18 Ω 5% " " 1/8W
	R42	80.5237	100 Ω 5% " " 1/8W
	R43	80.5051	1.5KΩ 5% " " 1/10W
	L1	63.5007	15 μA 10% RF choke 0.5A
	L2	63.5007	15 μH 10% " " 0.5A
	L3	62.0651-01	0.08 μH 20% RF choke
	L4	61.1113	RF coil 37 MHz
	L5	61.1113	RF coil 37 MHz
	L6	61.1150	RF coil 74 MHz
	L7	61.1151	RF coil 74 MHz
	L8	61.1152-01	RF coil 148 MHz
	L9	61.1153	RF coil 148 MHz
	L10	61.1154	RF coil 148 MHz
	Q1	99.5139	BSX19 Transistor
	Q2	99.5168	BF173 Transistor
	Q3	99.5121	BC107 Transistor
	Q4	99.5175	BF185 Transistor
	Q5	99.5175	BF185 Transistor
	Q6	99.5175	BF185 Transistor
	Q7	99.5175	BF185 Transistor
	Q8	99.5175	BF185 Transistor
	Q9	99.5139	BSX19 Transistor
	Q10	99.5139	BSX19 Transistor
	Q11	99.5229	2N4427 Transistor
	C57	76.5072	47nF 10% polyest. FL 50V (Swedish units only)

Storno

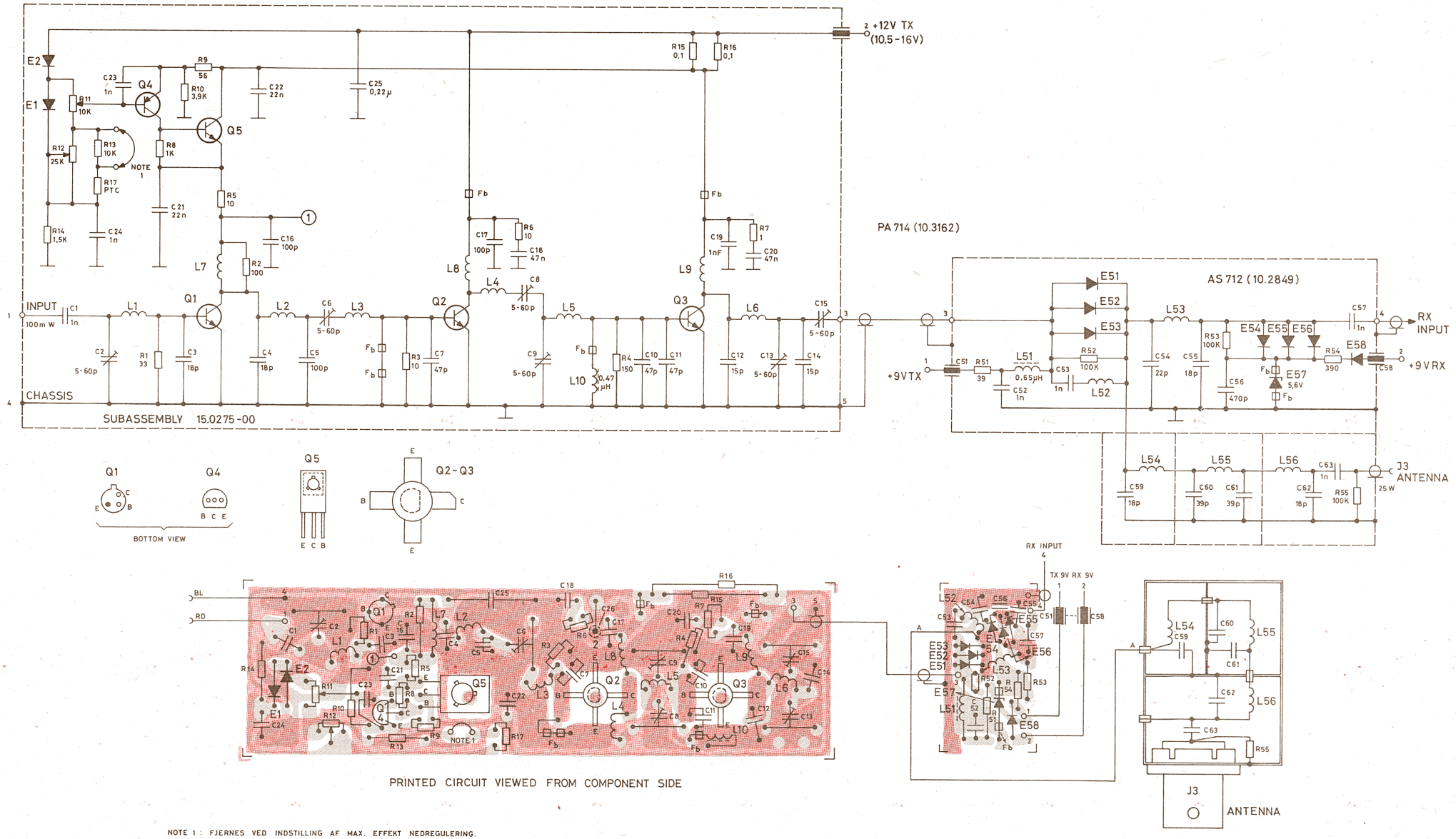
TYPE	NO.	CODE	DATA

EXCITER UNIT
STYRESENDER

EX711

X401.371/2

Storno



NOTE 1 : FJERNES VED INDSTILLING AF MAX. EFFEKT NEDREGULERING.
TO BE REMOVED WHEN SETTING THE MAXIMUM POWER DECLINE.

RF POWER AMPLIFIER PA714

D402.250/2

TYPE	Nº	CODE	DATA
PA714		10.3162-00	Power Amplifier (AS712 incl.)
	C1	74.5155	1 nF -20 +80% ceram 63 V
	C2	78.5061	5/60 pF teflon trimmer 300 V
	C3	74.5138	18 pF 5% ceram 125 V
	C4	74.5138	18 pF 5% " 125 V
	C5	74.5342	100 pF 2% " 63 V
	C6	78,5061	5/60 pF teflon trimmer 300 V
	C7	74.5343	47 pF 2% ceram 63 V
	C8	78,5062	5/60 pF teflon trimmer 300 V
	C9	78.5062	5/60 pF " " 300 V
	C10	74.5343	47 pF 2% ceram 63 V
	C11	74.5343	47 pF 2% " 63 V
	C12	74.5046	15 pF 5% " 400 V
	C13	78.5062	5/60 pF teflon trimmer 300 V
	C14	74.5046	15 pF 5% ceram 400 V
	C15	78.5062	5/60 pF teflon trimmer 300 V
	C16	74.5013	100 pF 20% ceram 400 V
	C17	74.5013	100 pF 20% " 400 V
	C18	76.5072	47 nF 10% polyester 50 V
	C19	74.5155	1nF-20 + 80% ceram 63 V
	C20	76.5072	47 nF 10% polyester 50 V
	C21	76.5071	22 nF 10% " 50 V
	C22	76.5071	22 nF 10% " 50 V
	C23	74.5155	1 nF -20 +80% ceram 63 V
	C24	74.5155	1 nF -20 +80% " 63 V
	C25	76.5074	0.22 µF 10% polyester 100 V
	C26	69.5023	Filter feed-through
	R1	80.5231	33 Ω 5% carbon film 1/8 W
	R2	80.5237	100 Ω 5% " " 1/8 W
	R3	80.5225	10 Ω 5% " " 1/8 W
	R4	80.5239	150 Ω 5% " " 1/8 W
	R5	80.5225	10 Ω 5% " " 1/8 W
	R6	80.5225	10 Ω 5% " " 1/8 W
	R7	80.5213	1 Ω 5% " " 1/8 W
	R8	80.5249	1 KΩ 5% " " 1/8 W
	R9	80.5234	56 Ω 5% " " 1/8 W
	R10	80.5256	3.9 KΩ 5% " " 1/8 W
	R11	86.5039	10 KΩ 20% trim. carbon film 0.1 W
	R12	86.5060	25 KΩ 20% " " " 0.1 W
	R13	80.5261	10 KΩ 5% carbon film 1/8 W
	R14	80.5251	1.5 KΩ 5% " " 1/8 W
	R15	82.5208	0.1 Ω 10% wire wound 1 W
	R16	82.5208	0.1 Ω 10% " " 1 W
	R17	89.5071	60 Ω - 50 KΩ PTC 30 V

Storno

TYPE	Nº	CODE	DATA
	L1	62.0930	RF coil 146 - 174 MHz
	L2	62.0930	RF coil 146 - 174 MHz
	L3	62.0930	RF coil 146 - 174 MHz
	L4	62.0932	RF coil 146 - 174 MHz
	L5	62.0932	RF coil 146 - 174 MHz
	L6	62.0931	RF coil 146 - 174 MHz
	L7	62.0651	RF coil 146 - 174 MHz
	L8	62.0933	RF coil 146 - 174 MHz
	L9	62.0934	RF coil 146 - 174 MHz
	L10	63.5008	RF choke
	E1	99.5028	1 N 914 Diode
	E2	99.5028	1 N 914 Diode
	Q1	99.5321	Transistor MRF 237
	Q2	99.5322	Transistor MRF 212
	Q3	99.5323	Transistor 2 N 6082
	Q4	99.5144-01	Transistor BC 214 L
	Q5	99.5235	Transistor BD 135
	Fc1-6	65.5060	Ferrite bead 60 MHz
AS712		10.2849-00	Antenna Switching Unit
	C51	69.5007	VHF feed-through filter
	C52	74.5155	1 nF -20 +80% ceram 63 V
	C53	74.5155	1 nF -20 +80% " 63 V
	C54	74.5008	22 pF 5% " 400 V
	C55	74.5196	18 pF 5% " 400 V
	C56	74.5162	470 pF -20 +50% no lead 400 V
	C57	74.5155	1 nF -20 +80% ceram 63 V
	C58	69.5007	VHF feed-through filter
	C59	74.5196	18 pF 5% ceram 400 V
	C60	74.5197	39 pF 5% " 400 V
	C61	74.5197	39 pF 5% " 400 V
	C62	74.5196	18 pF 5% " 400 V
	C63	74.5015	1 nF 20% " 400 V
	R51	80.5232	39 Ω 5% carbon film 1/8 W
	R52	80.5073	100 KΩ 5% " " 1/8 W
	R53	80.5073	100 KΩ 5% " " 1/8 W
	R54	80.5044	390 Ω 5% " " 1/8 W
	R55	80.5273	100 KΩ 5% " " 1/8 W

POWER AMPLIFIER PA714

X402.374/3

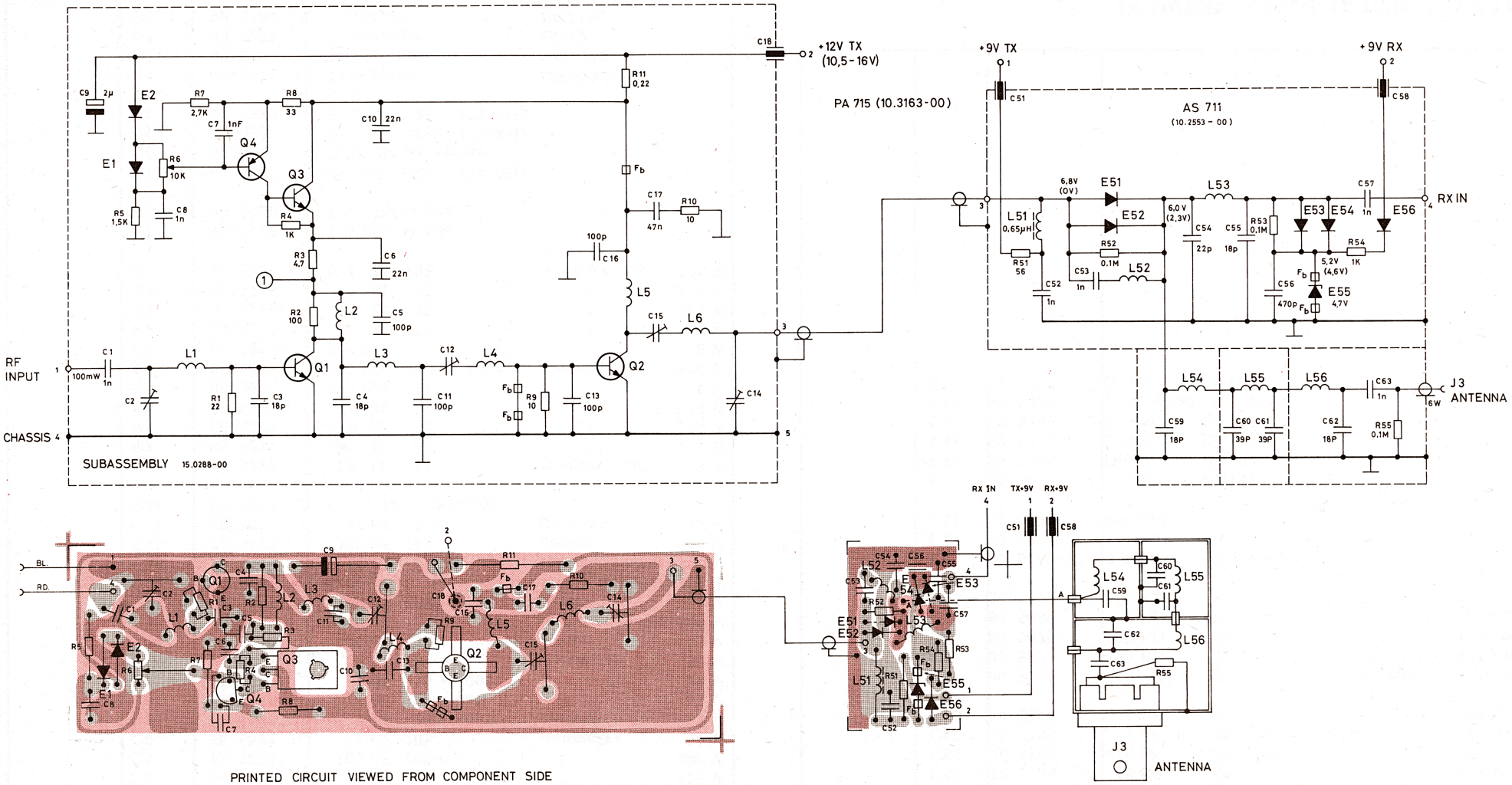
TYPE	Nº	CODE	DATA
	L51	62.0662-01	0.65 µH RF choke
	L52	62.0818	RF coil
	L53	62.0817	RF coil
	L54-L56	62.0816	RF coil
	E51	99.5187-01	BA244 Diode
	E52	99.5187-01	BA244 Diode
	E53	99.5187-01	BA244 Diode
	E54	99.5187-01	BA244 Diode
	E55	99.5187-01	BA244 Diode
	E56	99.5187-01	BA244 Diode
	E57	99.5282	Zenerdiode 5% 5.6 V 1 W
	E58	99.5237	1 N 4148 Diode
		15.0138	AS712 PC-assembly
	J	41.0166	BNC - connector
	Fb	65.5061	Ferrite bead 60 MHz

Storno

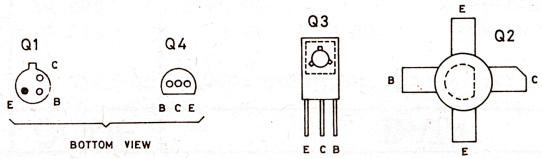
TYPE	Nº	CODE	DATA

POWER AMPLIFIER PA714

Storno



PRINTED CIRCUIT VIEWED FROM COMPONENT SIDE



RF POWER AMPLIFIER PA715

D 402.335/2

TYPE	Nº	CODE	DATA		
PA715		10.3163-00	Power Amplifier (AS711 incl.)		
	C1	74.5115	1 nF -20 + 80%	ceram	63 V
	C2	78.5061	5/60 pF	teflon trimmer	300 V
	C3	74.5138	18 pF 5%	ceram	125 V
	C4	74.5138	18 pF 5%	"	125 V
	C5	74.5013	100 pF 20%	"	400 V
	C6	76.5071	22 nF 10%	polyester	50 V
	C7	74.5155	1 nF -20 + 80%	ceram	63 V
	C8	74.5155	1 nF -20 + 80%	"	63 V
	C9	73.5064	2 µF -10 + 100%		70 V
	C10	76.5071	22 nF 10%	polyester	50 V
	C11	74.5342	100 pF 2%	ceram	63 V
	C12	78.5061	5/60 pF	teflon trimmer	300 V
	C13	74.5013	100 pF 20%	ceram	400 V
	C14	78.5061	5/60 pF	teflon trimmer	300 V
	C15	78.5061	5/60 pF	teflon trimmer	300 V
	C16	74.5013	100 pF 20%	ceram	400 V
	C17	76.5072	47 nF 10 %	polyester	50 V
	C18	69.5023	Filter feed-through		
	R1	80.5229	22 Ω 5%	carbon film	1/8 W
	R2	80.5237	100 Ω 5%	"	1/8 W
	R3	80.5221	4.7 Ω 5%	"	1/8 W
	R4	80.5249	1 KΩ 5%	"	1/8 W
	R5	80.5251	1.5 KΩ 5%	"	1/8 W
	R6	86.5039	10 KΩ 20 % tri'	carbon film	1/8 W
	R7	80.5254	2.7 KΩ 5%	"	1/8 W
	R8	80.5234	56 Ω 5%	"	1/8 W
	R9	80.5225	10 Ω 5%	"	1/8 W
	R10	80.5225	10 Ω 5%	"	1/8 W
	R11	82.5208	0.1 Ω 10%	wire wound	1/8 W
	E1	99.5028	1 N 914 Diode		
	E2	99.5028	1 N 914 Diode		
	L1	62.0941	RF coil 146 - 174 MHz		
	L2	62.0651	0.08 µH RF choke		
	L3	62.0930	RF coil 146 - 174 MHz		
	L4	62.0930	RF coil 146 - 174 MHz		
	Q1	99.5321	Transistor	MRF237	
	Q2	99.5322	Transistor	MRF212	
	Q3	99.5235	Transistor	BD135	
	Q4	99.5144-01	Transistor	BC214L	
		15.0288	Subassembly		

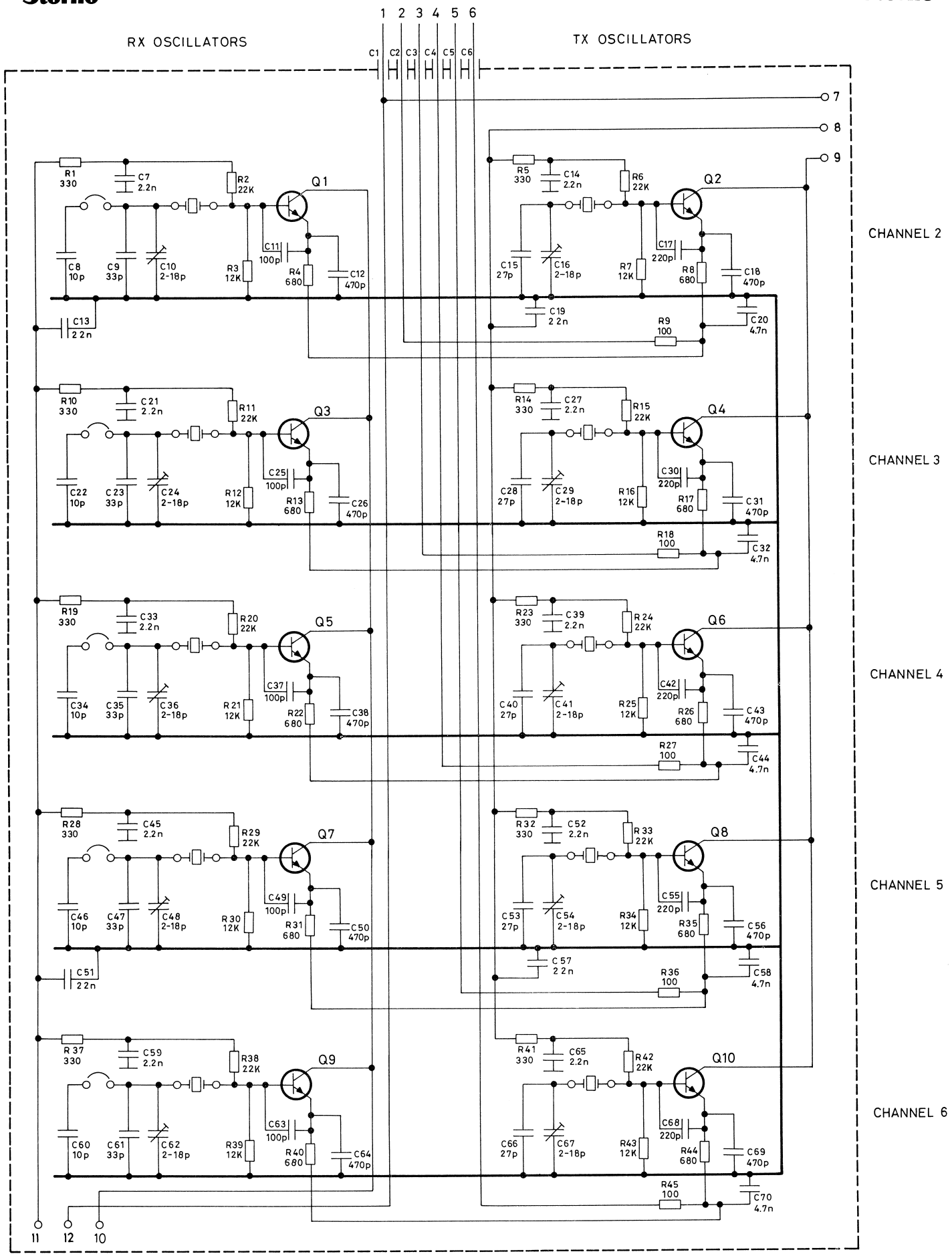
Storno

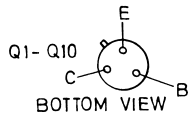
TYPE	Nº	CODE	DATA		
AS711		10.2553-00	Antenna Switching Unit		
	C52	74.5155	1 nF -20 + 80%	ceram	63 V
	C53	74.5155	1 nF -20 + 80%	"	63 V
	C54	74.5008	22 pF 5%	"	400 V
	C55	74.5138	18 pF 5%	"	125 V
	C56	74.5162	470 pF -20 + 50%		400 V
	C57	74.5155	1 nF -20 + 80%	ceram	63 V
	C63	74.5015	1 nF 20%	"	400 V
	R51	80.5234	56 Ω 5%	carbon film	1/10 W
	R52	80.5073	100 KΩ 5%	"	1/10 W
	R53	80.5073	100 KΩ 5%	"	1/10 W
	R54	80.5049	1 KΩ 5%	"	1/10 W
	R55	80.5273	100 KΩ 5%	"	1/8 W
	L51	62.0662-01	0,65 µH RF choke		
	L52	62.0818	RF coil		
	L53	62.0817	RF coil		
	E51	99.5244	Diode BA182		
	E52	99.5244	Diode BA182		
	E53	99.5244	Diode BA182		
	E54	99.5244	Diode BA182		
	E55	99.5224	Zenerdiode 4,7 V 5%		0.25 W
	E56	99.5237	Diode 1N4148		

POWER AMPLIFIER PA715

X402.368

Storno

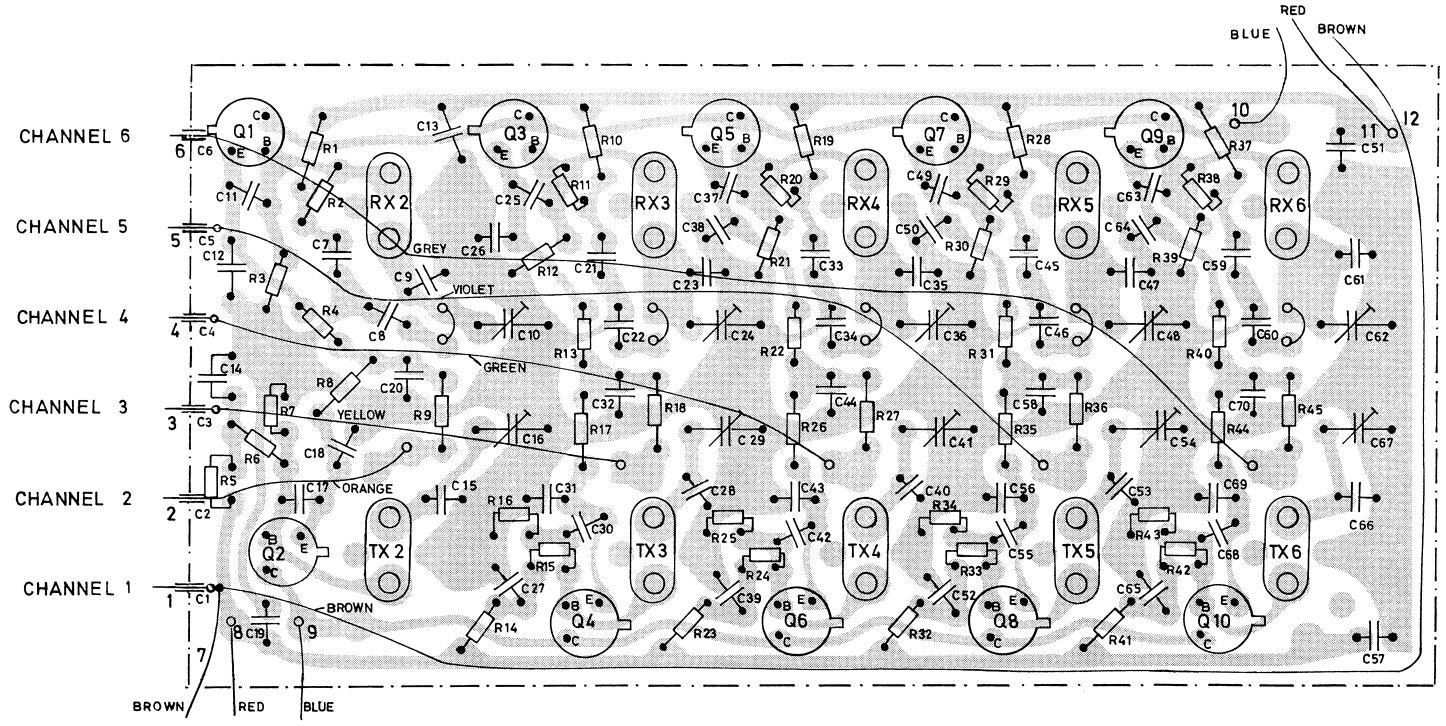




CRYSTAL SWITCH UNIT XS701

D401.328/3

Storno



PRINTED CIRCUIT VIEWED FROM COMPONENT SIDE

CRYSTAL OSCILLATOR PANEL XS701

D401.518

TYPE	NO.	CODE	DATA	
XS701		10.2436	Crystal Switching Unit	
	C1	74.5167	1 nF -20 +80% ceram FT	300V
	C2	74.5167	1 nF -20 +80% ceram FT	300V
	C3	74.5167	1 nF -20 +80% ceram FT	300V
	C4	74.5167	1 nF -20 +80% ceram FT	300V
	C5	74.5167	1 nF -20 +80% ceram FT	300V
	C6	74.5167	1 nF -20 +80% ceram FT	300V
	C7	76.5059	2.2 nF 10% polyest. FL	50V
	C8	74.5135	10 pF 5% ceram DI	125V
	C9	74.5191	33 pF 5% ceram TB	160V
	C10	78.5044	2-18 pF trimmer	300V
	C11	76.5102	100 pF 2.5% polystyr TB	25V
	C12	76.5106	470 pF 2.5% polystyr TB	25V
	C13	76.5071	22 nF 10% polyest. FL	50V
	C14	76.5059	2.2 nF 10% polyest. FL	50V
	C15	74.5192	27 pF 5% ceram TB	160V
	C16	78.5044	2-18 pF trimmer	300V
	C17	76.5104	220 pF 2.5% polystyr TB	25V
	C18	76.5106	470 pF 2.5% polystyr TB	25V
	C19	76.5071	22 nF 10% polyest. FL	50V
	C20	76.5061	4.7 nF 10% polyest. FL	50V
	C21	76.5059	2.2 nF 10% polyest. FL	50V
	C22	74.5135	10 pF 5% ceram DI	125V
	C23	74.5191	33 pF 5% ceram TB	160V
	C24	78.5044	2-18 pF trimmer	300V
	C25	76.5102	100 pF 2.5% polystyr TB	25V
	C26	76.5106	470 pF 2.5% polystyr TB	25V
	C27	76.5059	2.2 nF 10% polyest. FL	50V
	C28	74.5192	27 pF 5% ceram TB	160V
	C29	78.5044	2-18 pF trimmer	300V
	C30	76.5104	220 pF 2.5% polystyr TB	25V
	C31	76.5106	470 pF 2.5% polystyr TB	25V
	C32	76.5061	4.7 nF 10% polyest. FL	50V
	C33	76.5059	2.2 nF 10% polyest. FL	50V
	C34	74.5135	10 pF 5% ceram DI	125V
	C35	74.5191	33 pF 5% ceram TB	160V
	C36	78.5044	2-18 pF trimmer	300V
	C37	76.5102	100 pF 2.5% polystyr TB	25V
	C38	76.5106	470 pF 2.5% polystyr TB	25V
	C39	76.5059	2.2 nF 10% polyest. FL	50V
	C40	74.5192	27 pF 5% ceram TB	160V
	C41	78.5044	2-18 pF trimmer	300V
	C42	76.5104	220 pF 2.5% polystyr TB	25V
	C43	76.5106	470 pF 2.5% polystyr TB	25V
	C44	76.5061	4.7 nF 10% polyest. FL	50V
	C45	76.5059	2.2 nF 10% polyest. FL	50V
	C46	74.5135	10 pF 10% ceram DI	125V

Storno

TYPE	NO.	CODE	DATA	
	C47	74.5191	33 pF 5% ceram TB	160V
	C48	78.5044	2-18 pF trimmer	300V
	C49	76.5102	100 pF 2.5% polystyr TB	25V
	C50	76.5106	470 pF 2.5% polystyr TB	25V
	C51	76.5071	22 nF 10% polyest. FL	50V
	C52	76.5059	2.2 nF 10% polyest. FL	50V
	C53	74.5192	27 pF 5% ceram TB	160V
	C54	78.5044	2-18 pF trimmer	300V
	C55	76.5104	220 pF 2.5% polystyr TB	25V
	C56	76.5106	470 pF 2.5% polystyr TB	25V
	C57	76.5071	22 nF 10% polyest. FL	50V
	C58	76.5061	4.7 nF 10% polyest. FL	50V
	C59	76.5059	2.2 nF 10% polyest. FL	50V
	C60	74.5135	10 pF 5% ceram DI	125V
	C61	74.5191	33 pF 5% ceram TB	160V
	C62	78.5044	2-18 pF trimmer	300V
	C63	76.5102	100 pF 2.5% polystyr TB	25V
	C64	76.5106	470 pF 2.5% polystyr TB	25V
	C65	76.5059	2.2 nF 10% polyest. FL	50V
	C66	74.5192	27 pF 5% ceram TB	160V
	C67	78.5044	2-18 pF trimmer	300V
	C68	76.5104	220 pF 2.5% polystyr TB	25V
	C69	76.5106	470 pF 2.5% polystyr TB	25V
	C70	76.5061	4.7 nF 10% polyest. FL	50V
	R1	80.5243	330 Ω 5% carbon film	1/8W
	R2	80.5265	22 kΩ 5% "	1/8W
	R3	80.5262	12 kΩ 5% "	1/8W
	R4	80.5247	680 Ω 5% "	1/8W
	R5	80.5243	330 Ω 5% "	1/8W
	R6	80.5265	22 kΩ 5% "	1/8W
	R7	80.5262	12 kΩ 5% "	1/8W
	R8	80.5247	680 Ω 5% "	1/8W
	R9	80.5237	100 Ω 5% "	1/8W
	R10	80.5243	330 Ω 5% "	1/8W
	R11	80.5265	22 kΩ 5% "	1/8W
	R12	80.5262	12 kΩ 5% "	1/8W
	R13	80.5247	680 Ω 5% "	1/8W
	R14	80.5243	330 Ω 5% "	1/8W
	R15	80.5265	22 kΩ 5% "	1/8W
	R16	80.5262	12 kΩ 5% "	1/8W
	R17	80.5247	680 Ω 5% "	1/8W

CRYSTAL SWITCH UNIT XS701

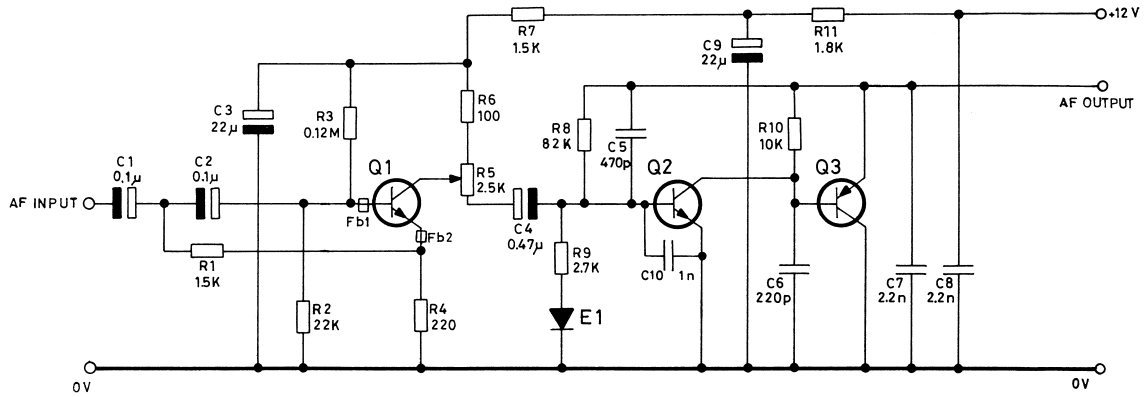
TYPE	NO.	CODE	DATA
	R18	80.5237	100 Ω 5% carbon film 1/8W
	R19	80.5243	330 Ω 5% " " 1/8W
	R20	80.5265	22 kΩ 5% " " 1/8W
	R21	80.5262	12 kΩ 5% " " 1/8W
	R22	80.5247	680 Ω 5% " " 1/8W
	R23	80.5243	330 Ω 5% " " 1/8W
	R24	80.5265	22 kΩ 5% " " 1/8W
	R25	80.5262	12 kΩ 5% " " 1/8W
	R26	80.5247	680 Ω 5% " " 1/8W
	R27	80.5237	100 Ω 5% " " 1/8W
	R28	80.5243	330 Ω 5% " " 1/8W
	R29	80.5265	22 kΩ 5% " " 1/8W
	R30	80.5262	12 kΩ 5% " " 1/8W
	R31	80.5247	680 Ω 5% " " 1/8W
	R32	80.5243	330 Ω 5% " " 1/8W
	R33	80.5265	22 kΩ 5% " " 1/8W
	R34	80.5262	12 kΩ 5% " " 1/8W
	R35	80.5247	680 Ω 5% " " 1/8W
	R36	80.5237	100 Ω 5% " " 1/8W
	R37	80.5243	330 Ω 5% " " 1/8W
	R38	80.5265	22 kΩ 5% " " 1/8W
	R39	80.5262	12 kΩ 5% " " 1/8W
	R40	80.5247	680 Ω 5% " " 1/8W
	R41	80.5243	330 Ω 5% " " 1/8W
	R42	80.5265	22 kΩ 5% " " 1/8W
	R43	80.5262	12 kΩ 5% " " 1/8W
	R44	80.5247	680 Ω 5% " " 1/8W
	R45	80.5237	100 Ω 5% " " 1/8W
	Q1	99.5139	BSX19 Transistor
	Q2	99.5139	BSX19 "
	Q3	99.5139	BSX19 "
	Q4	99.5139	BSX19 "
	Q5	99.5139	BSX19 "
	Q6	99.5139	BSX19 "
	Q7	99.5139	BSX19 "
	Q8	99.5139	BSX19 "
	Q9	99.5139	BSX19 "
	Q10	99.5139	BSX19 "

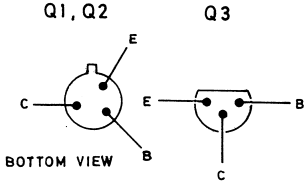
Storno

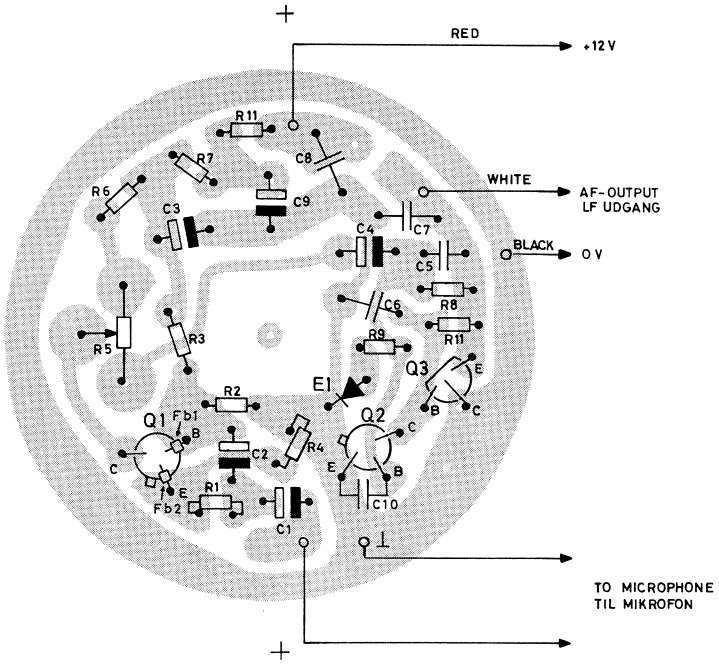
TYPE	NO.	CODE	DATA

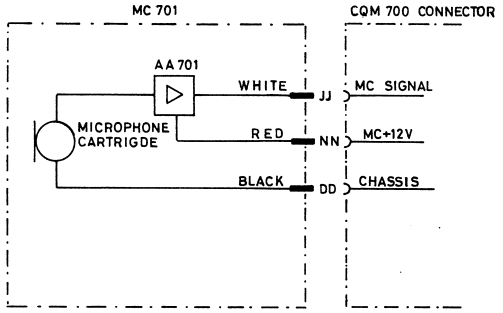
CRYSTAL SWITCH UNIT XS701

Storno









PRINTED CIRCUIT VIEWED FROM COMPONENT SIDE.

AF AMPLIFIER
LF FORSTÆRKER
AA701

D 401.216/3

TYPE	NO.	CODE	DATA	
AA701		10.2488	Microphone Amplifier	
	C1	73.5130	0.1 µF -20 +60% tantal	20 V
	C2	73.5130	0.1 µF -20 +60% tantal	20 V
	C3	73.5127	22 µF 20% tantal	16 V
	C4	73.5134	0.47 µF -20 +60% tantal	20 V
	C5	76.5106	470 pF 5% polystyr TB	25 V
	C6	76.5104	220 pF 5% polystyr TB	25 V
	C7	76.5059	2.2 nF 10% polyest. FL	50 V
	C8	76.5059	2.2 nF 10% polyest. FL	50 V
	C9	73.5127	22 µF 20% tantal	16 V
	C10	74.5155	1 nF -20 +80% ceram PL	63 V
	R1	80.5251	1.5 KΩ 5% carbon film	1/8W
	R2	80.5265	22 KΩ 5% carbon film	1/8W
	R3	80.5274	0.12 MΩ 5% carbon film	1/8W
	R4	89.5241	220 Ω 5% carbon film	1/8W
	R5	86.5067	2.5 KΩ 20% potentiometer	0.1W
	R6	80.5237	100 Ω 5% carbon film	1/8W
	R7	80.5251	1.5 KΩ 5% carbon film	1/8W
	R8	80.5272	82 KΩ 5% carbon film	1/8W
	R9	80.5254	2.7 KΩ carbon film	1/8W
	R10	80.5261	10 KΩ 5% carbon film	1/8W
	R11	80.5252	1.8 KΩ carbon film	1/8W
	E1	99.5028	1N914 Diode	
	Q1	99.5121	BC107 Transistor	
	Q2	99.5121	BC107 Transistor	
	Q3	99.5144-02	BC214 L Transistor	
	Fb1	65.5102	Ferrit bead	
	Fb2	65.5102	Ferrit bead	

Storno

TYPE	NO.	CODE	DATA

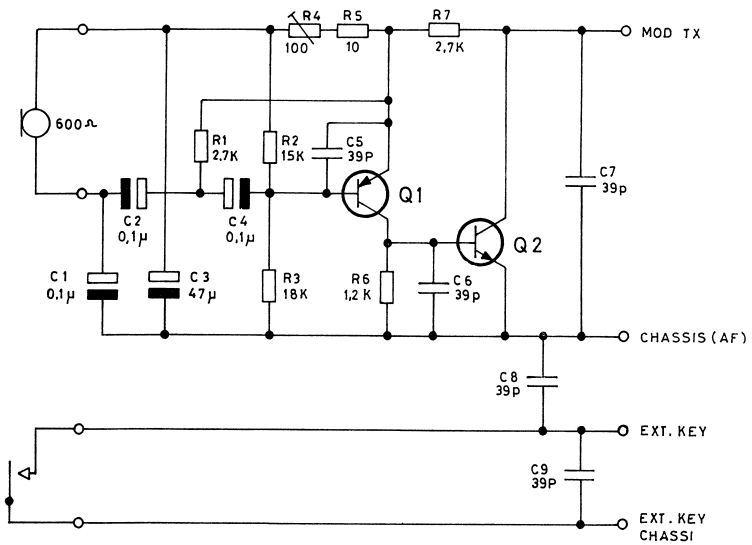
MICROPHONE AMPLIFIER
MIKROFONFORSTÆRKER

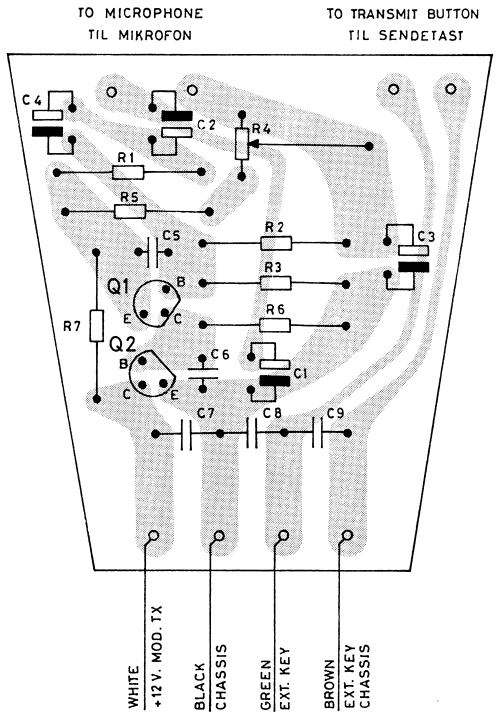
AA701

X401.318/3

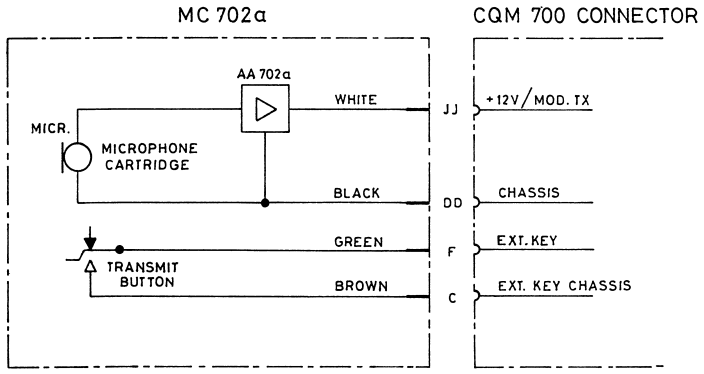
Storno

Storno





PRINTED CIRCUIT VIEWED FROM COMPONENT SIDE.
TRYKT KREDSLØB SET FRA KOMPONENTSIDEN.



MICROPHONE PREAMPLIFIER
MIKROFONFORSTÆRKER

AA702a

D 402.206

Nº	CODE	DATA	
MT5001	96.0105-00	HANDSET, COMPLETE	
	18.0760-01	Cable	
SUBASS.	96.5087-00	HANDSET/MICROTELEPHONE	
	10.3616-00	AA706, Telephone Amplifier	
	10.3617-00	AA707, Microphone Amplifier	
	32.0486-00	Suspension f. telephone	
	32.0486-00	Suspension f. microphone	
	52.0077-00	Netting f. telephone	
	52.0077-00	Netting f. microphone	
	96.5076-00	Cartridge, telephone	
	96.5079-00	Cartridge, microphone	
	177.5013-00	Spiral wire	
SUBASS.	96.5088-01	RETAINER WITH SWITCH	
R1	80.5263-00	15 Kohm 5%, Carbon film	1/8 W
R2	80.5245-00	470 ohm 5%, Carbon film	1/8 W
R3	80.5249-00	1 Kohm 5%, Carbon film	1/8 W
	20422-03913	Screw 3.9 x 13 mm	
	10.3616-00	AA706	
C1	73.5114	1 uF 20%, Tantal	35 V
C2	74.5345	1 uF 10%, Ceram 2PL	65 V
C3	73.5126	4.7 uF 20%, Tantal	35 V
R1	80.5261-00	10 Kohm 5%, Carbon film	1/8 W
R2	80.5255-00	3.3 Kohm 5%, Carbon film	1/8 W
R3	80.5259-00	6.8 Kohm 5%, Carbon film	1/8 W
R4	80.5249-00	1 Kohm 5%, Carbon film	1/8 W
R5	80.5243-00	330 ohm 5%, Carbon film	1/8 W
E1	99.5209-00	Diode, Stabilizing, 1.5 V.	
Q1	99.5143	Transistor BC238	
Q2	99.5230	Transistor BC308	

Storno

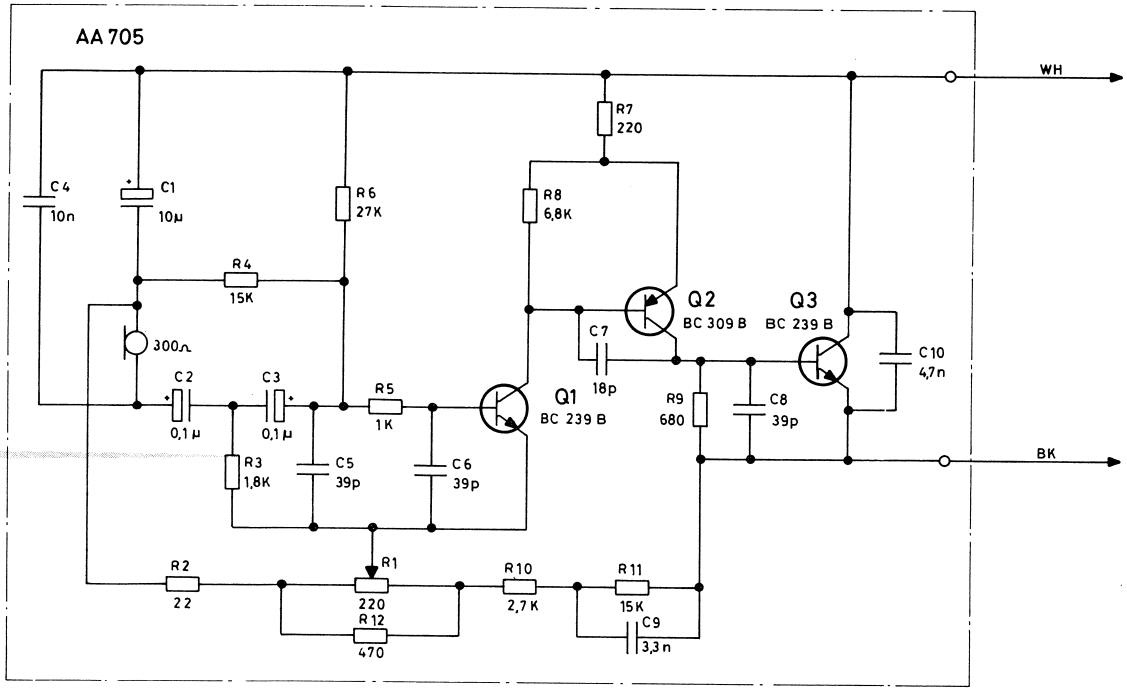
Nº	CODE	DATA	
	10.3617-00	AA707	
C1	73.5102	2.2 uF 20%, Tantal	35 V
C2	74.5186	47 pF 10%, Ceram N750PL	25 V
C3	74.5186	47 pF 10%, Ceram N750PL	25 V
R1	80.5261-00	10 Kohm 5%, Carbon film	1/8 W
R2	80.5239-00	150 Kohm 5%, Carbon film	1/8 W
R3	80.5251-00	1.5 Kohm 5%, Carbon film	1/8 W
R4	80.5271-00	68 Kohm 5%, Carbon film	1/8 W
R5	80.5247-00	680 ohm 5%, Carbon film	1/8 W
Q1	99.5143	Transistor BC238	
Q2	99.5230	Transistor BC308	

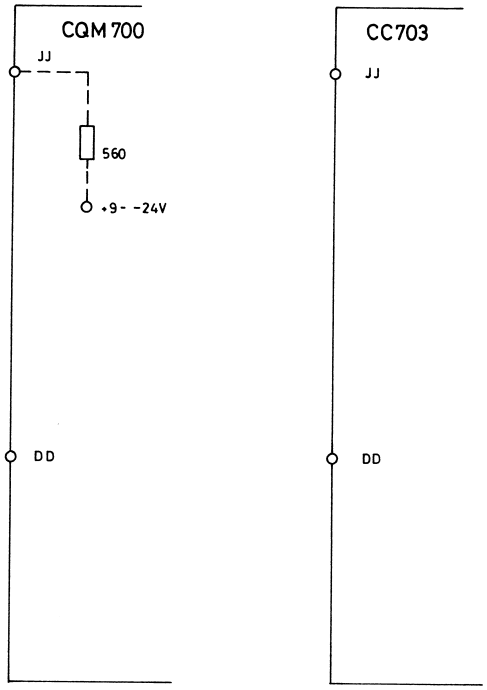
HANDSET MT5001

X402.939

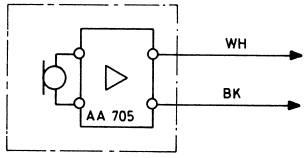
Storno

Storno

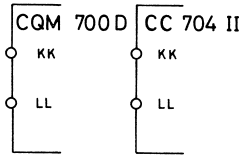




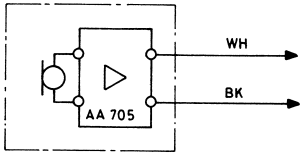
CQM 700 a



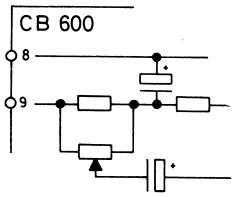
MC 704



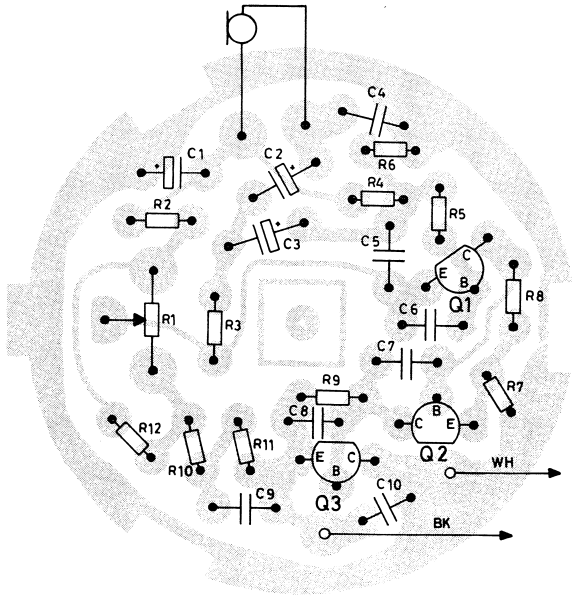
CQM 700 D



MC 704



CQM 600



MICROPHONE MC 704
W. AMPLIFIER AA 705

D402.666

TYPE	Nº	CODE	DATA			
		96.0102	MC704		Microphone	
		10.3614	AA705		AF amplifier	
		17.0062	Installation Kit			
			AA705			
	C1	73.5109	10uF	±20%	tantal	16V
	C2	73.5089	0.1uF	±20%	tantal	35V
	C3	73.5089	0.1uF	±20%	tantal	35V
	C4	74.5109	10nF		cer	
	C5	74.5187	39pF	10%	cer	25V
	C6	74.5187	39pF	10%	cer	25V
	C7	74.5138	18pF	5%	cer	125V
	C8	74.5187	39pF	10%	cer	25V
	C9	76.5060	3.3n		polyester	50V
	C10	74.5108	4.7nF		cer	20V
	R1	86.5076	220ohm	20%	potentiometer	0.1W
	R2	80.5229	22ohm	5%	carbon film	1/8W
	R3	80.5252	1.8kohm	5%	carbon film	1/8W
	R4	80.5263	15kohm	5%	carbon film	1/8W
	R5	80.5249	1kohm	5%	carbon film	1/8W
	R6	80.5266	27kohm	5%	carbon film	1/8W
	R7	80.5241	220kohm	5%	carbon film	1/8W
	R8	80.5259	6.8kohm	5%	carbon film	1/8W
	R9	80.5247	680kohm	5%	carbon film	1/8W
	R10	80.5254	2.7kohm	5%	carbon film	1/8W
	R11	80.5263	15kohm	5%	carbon film	1/8W
	R12	80.5245	470ohm	5%	carbon film	1/8W
	Q1	99.5201			transistor BC 239B	
	Q2	99.5115			transistor BC 309B	
	Q3	99.5201			transistor BC 239B	

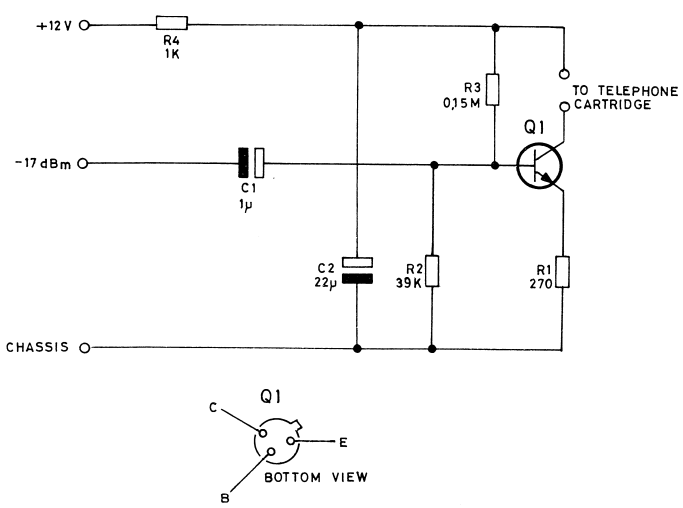
Storno

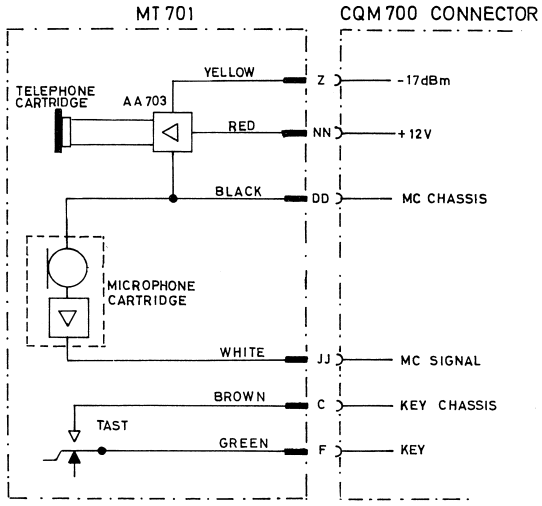
TYPE	Nº	CODE	DATA

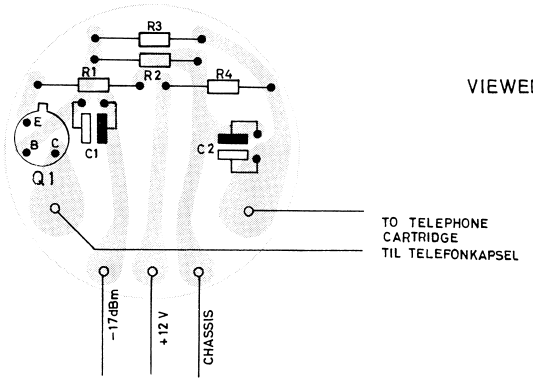
MICROPHONE MC704

X402.651

Storno







VIEWED FROM COMPONENT SIDE

HANDSET
MIKROTELEFON

MT701

D401.844

TYPE	NO.	CODE	DATA
MT 701		96.0096	Handset and Retainer HS602a
		96.0097	Handset
		37.0110	Retainer
		10.2809	AA703 Amplifier
		96.5085	Telephone Cartridge 65Ω
		96.5074	Microphone, dynamic 1500Ω
AA 703		10.2809	Amplifier
	C1	73.5114	1µF 20% tantal 35V
	C2	73.5127	22µF 20% tantal 16V
	R1	80.5242	270Ω 5% carbon film 1/8W
	R2	80.5268	39KΩ 5% " 1/8W
	R3	80.5275	150KΩ 5% " 1/8W
	R4	80.5249	1KΩ 5% " 1/8W
	Q1	99.5143	BC108 Transistor

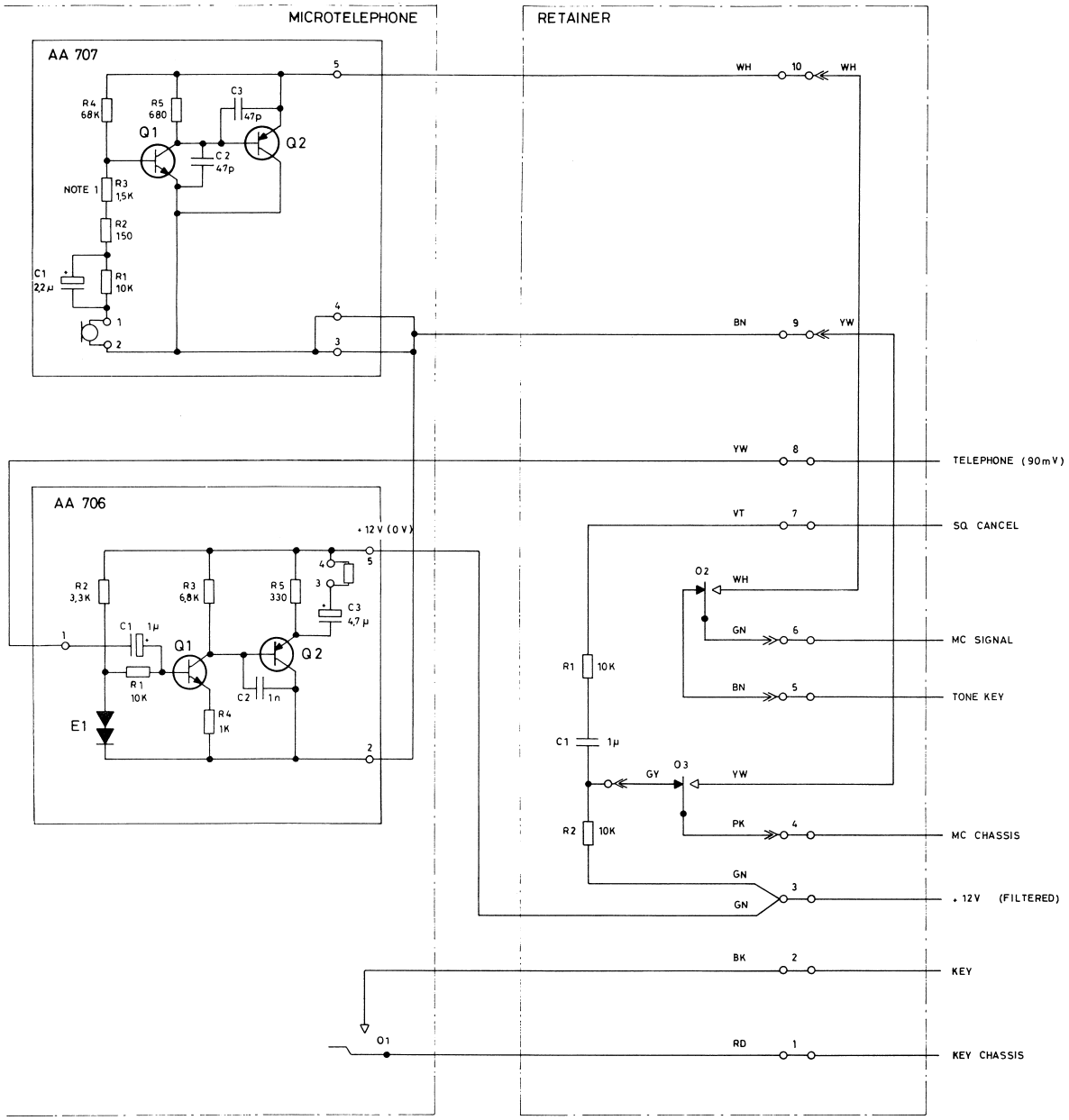
Storno

TYPE	NO.	CODE	DATA

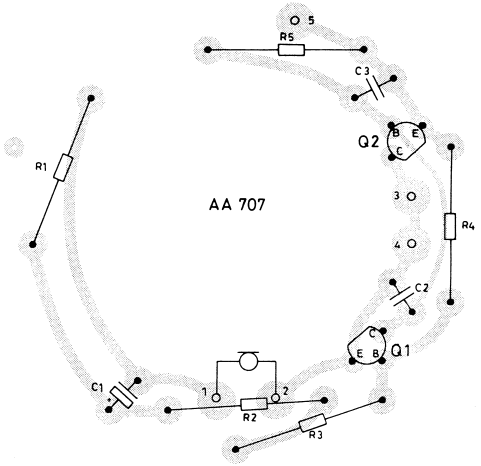
HANDSET
MIKROTELEFON

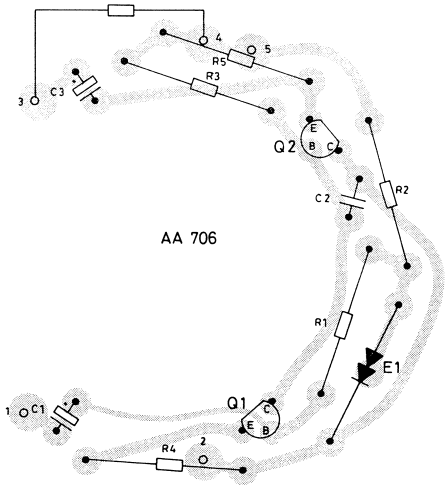
MT701

X401.965



NOTE 1: R3 TO BE SHORT CIRCUITED WHEN AA 707 IS USED IN CONJUNCTION WITH CQM 700a OR CQM 600. SEE I 25171.





MICROTELEPHONE MT 704
WITH RETAINER

D402.667

TYPE	Nº	CODE	DATA			
		96.0101	MT704		Micro- Telephone	
		96.0104			microphone with amp.	
		96.5088-01			retainer with switch	
		10.3616	AA706		telephone amplifier	
		10.3617	AA707		microphone amplifier	
	C1	76.5078	1uF	10%	polyester TB	100V
	R1	80.5061	10kohm	5%	carbon	1/10W
	R2	80.5061	10kohm	5%	carbon	1/10W
		17.0115			Kit for 600-series	
			AA706			
	C1	73.5114	1uF	20%	tantal	35V
	C2	74.5345	1nF	10%	ceram 2PL	65V
	C3	73.5126	4.7uF	20%	tantal	35V
	R1	80.5261	10kohm	5%	carbon film	1/8W
	R2	80.5255	3.3kohm	5%	carbon film	1/8W
	R3	80.5259	6.8kohm	5%	carbon film	1/8W
	R4	80.5249	1kohm	5%	carbon film	1/8W
	R5	80.5243	330ohm	5%	carbon film	1/8W
	Q1	99.5143			transistor BC238	
	Q2	99.5230			transistor BC308	
	E1	99.5209			stabilizing diode	1.5V
			AA707			
	C1	73.5102	2.2uF	20%	tantal	35V
	C2	74.5186	47pF	10%	cer N 750 PL	25V
	C3	74.5186	47pF	10%	cer N 750 PL	25V
	R1	80.5261	10kohm	5%	carbon film	1/8W
	R2	80.5239	150ohm	5%	carbon film	1/8W
	R3	80.5251	1.5kohm	5%	carbon film	1/8W
	R4	80.5271	68ohm	5%	carbon film	1/8W
	R5	80.5247	680ohm	5%	carbon film	1/8W
	Q1	99.5143			transistor BC 238	
	Q2	99.5230			transistor BC 308	
			Kit for 600-series			
		80.5237	100ohm	5%	carbon film	1/8W
		80.5251	1.5ohm	5%	carbon film	1/8W

Storno

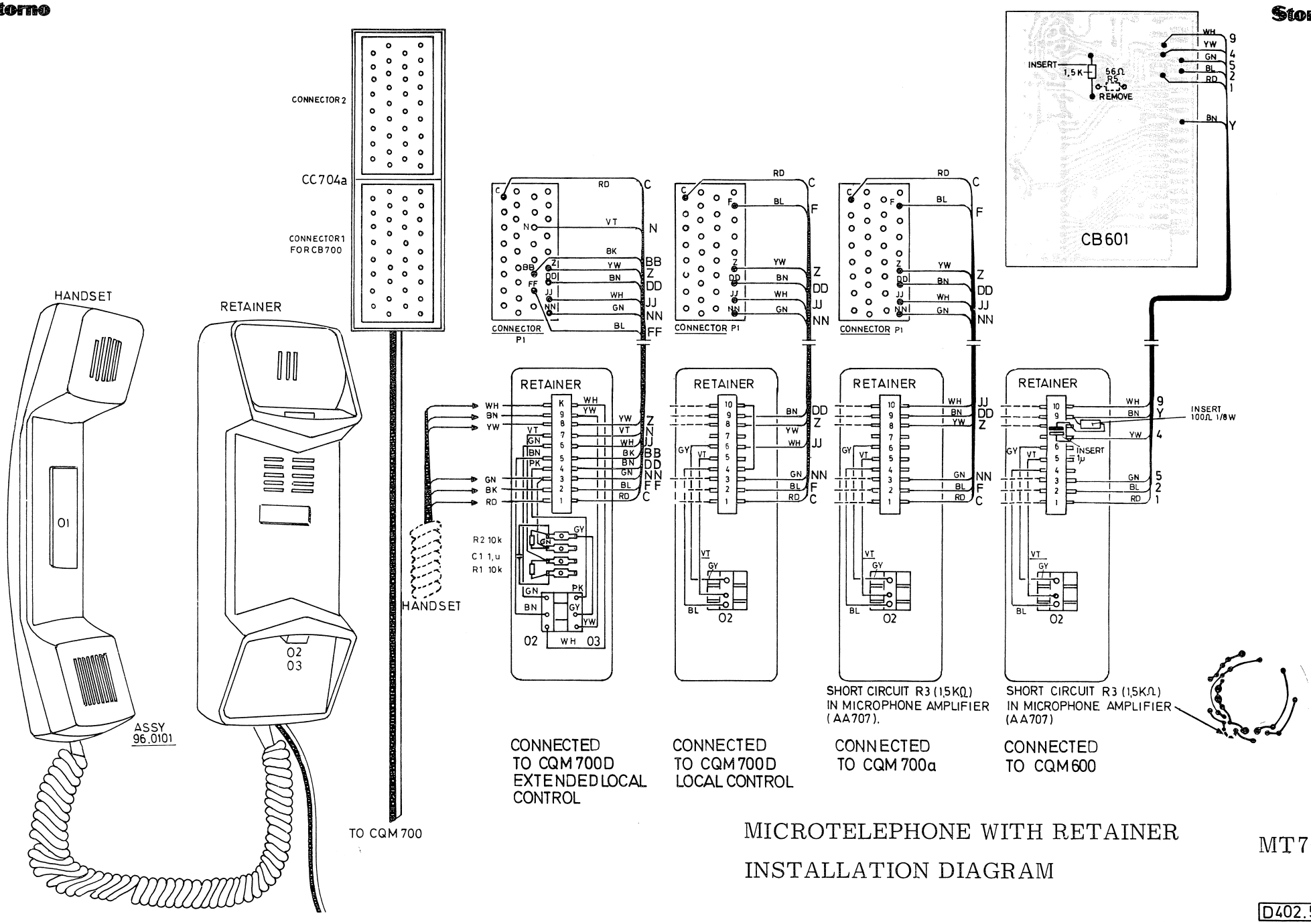
TYPE	Nº	CODE	DATA

HANDSET MT704

X402.650

Storno

Storno

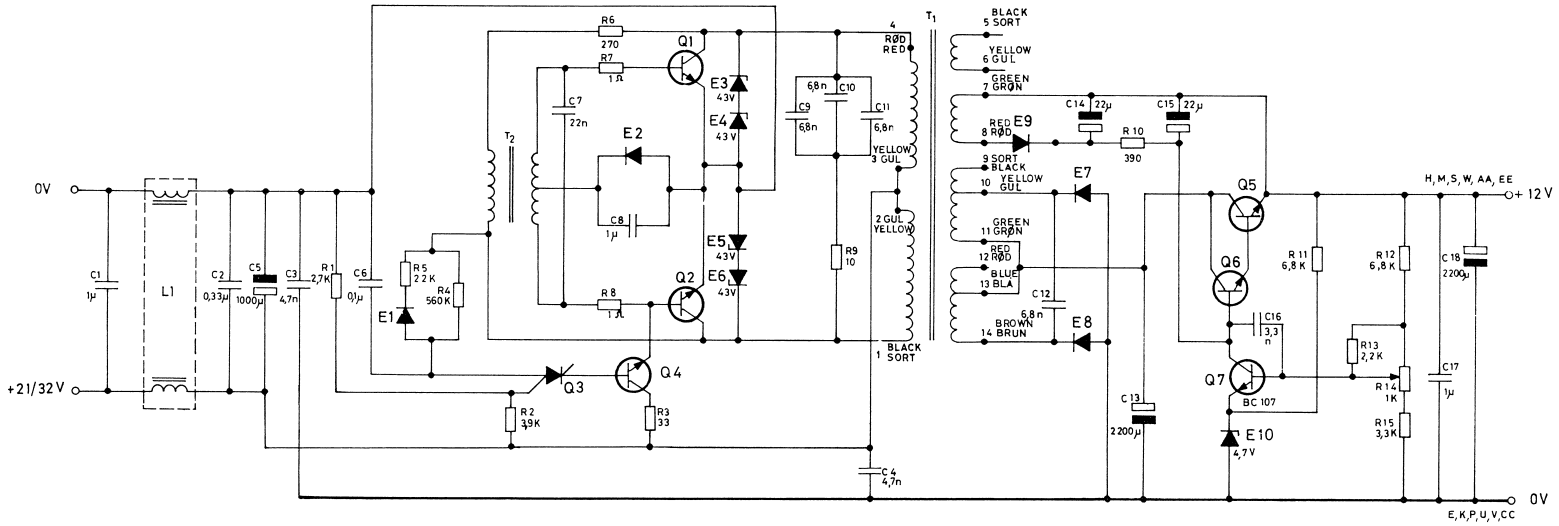


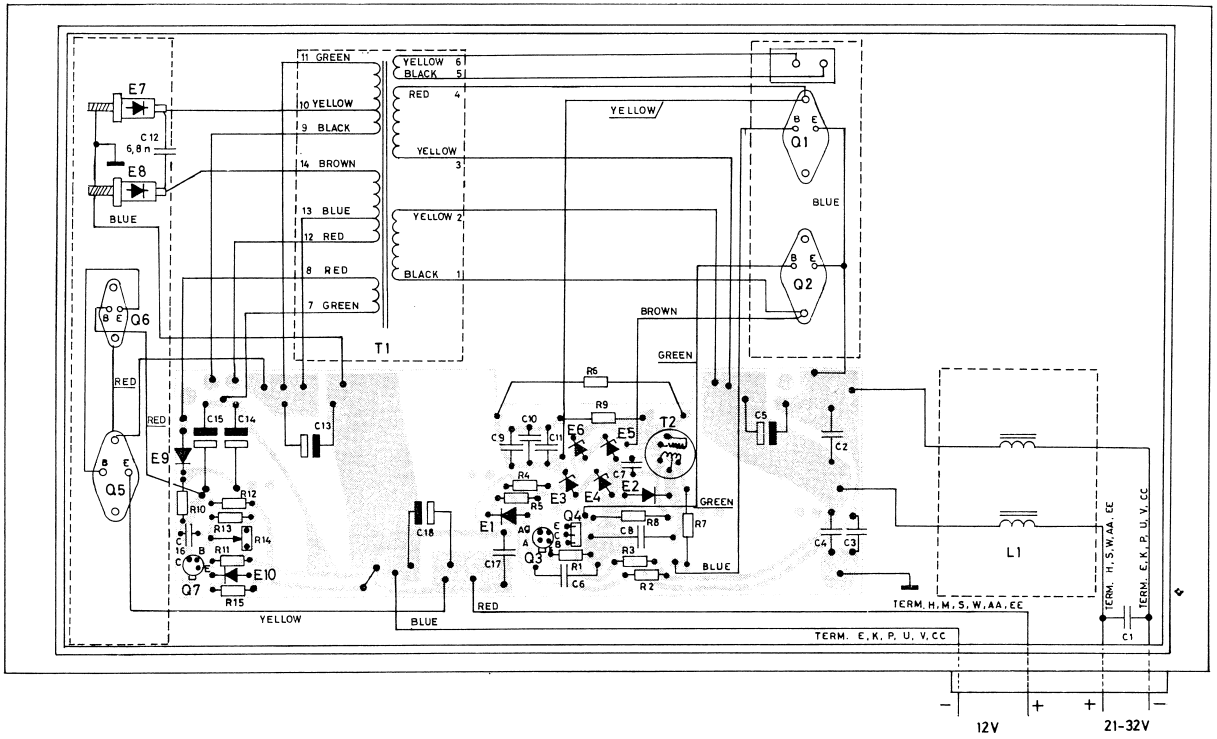
MICROTELEPHONE WITH RETAINER
INSTALLATION DIAGRAM

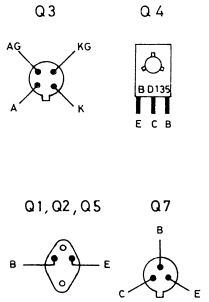
MT704

D402.507/3

Storno







POWER SUPPLY UNIT
STRØMFORSYNING

PS701

D401.647/2

TYPE	NO.	CODE	DATA	
PS701		10.2448-00	Power supply unit	
	C1	76.5078	1µF 10% polyest TB	100V
	C2	76.5075	0.33µF10% polyest TB	100V
	C3	74.5285	4.7nF - 20+80% ceram DI	2000V
	C4	74.5285	4.7nF -20+80% ceram DI	2000V
	C5	73.5146	1000µF -10+100% elco	100V
	C6	76.5073	0.1µF 10% polyest TB	100V
	C7	76.5071	22nF 10% polyest FL	50V
	C8	76.5078	1µF 10% polyest TB	100V
	C9	74.5286	6.8nF 20% ceram DI	400V
	C10	74.5286	6.8nF 20% ceram DI	400V
	C11	74.5286	6.8nF 20% ceram DI	400V
	C12	74.5286	6.8nF 20% ceram DI	400V
	C13	73.5139	2200µF - 10+100% elco	40V
	C14	73.5145	22µF - 10+100% elco	40V
	C15	73.5145	22µF - 10+100 elco	40V
	C16	76.5060	3.3nF 10% polyest	50V
	C17	76.5096	1µF 20% polyest	100V
	C18	73.5139	2200µF - 10+100% elco	40V
	R1	80.5254	2,7kΩ 5% carbon film	1/8W
	R2	80.5256	3.9kΩ 5% carbon film	1/8W
	R3	80.5231	33Ω 5% carbon film	1/8W
	R4	80.5282	056MΩ 5% carbon film	1/8W
	R5	80.5253	2.2kΩ 5% carbon film	1/8W
	R6	84.5225	270Ω wire wound	9W
	R7	82.5201	1Ω 10% wire wound	1W
	R8	82.5201	1Ω 10% wire wound	1W
	R9	84.5019	10Ω 10% wire wound	5.5W
	R10	80.5244	390Ω 5% carbon film	1/8W
	R11	80.5259	6.8kΩ 5% carbon film	1/8W
	R12	80.5259	6.8kΩ 5% carbon film	1/8W
	R13	80.5253	2.2kΩ 5% carbon film	1/8W
	R14	86.5058	1KΩ 20% potentiometer	0.1W
	R15	80.5255	3.3kΩ 5% carbon film	1/8W
	L1	60.5161	Line filter	
	T1	60.5160	Converter transformer 24-12V 175W	
	T2	61.1118	Transformer, saturation	
	E1	99.5237	1N4148 diode	
	E2	99.5020	1N4004 diode	
	E3	99.5262	BZX70C43 zenerdiode	
	E4	99.5262	BZX70C43 zenerdiode	
	E5	99.5262	BZX70C43 zenerdiode	
	E6	99.5262	BZX70C43 zenerdiode	

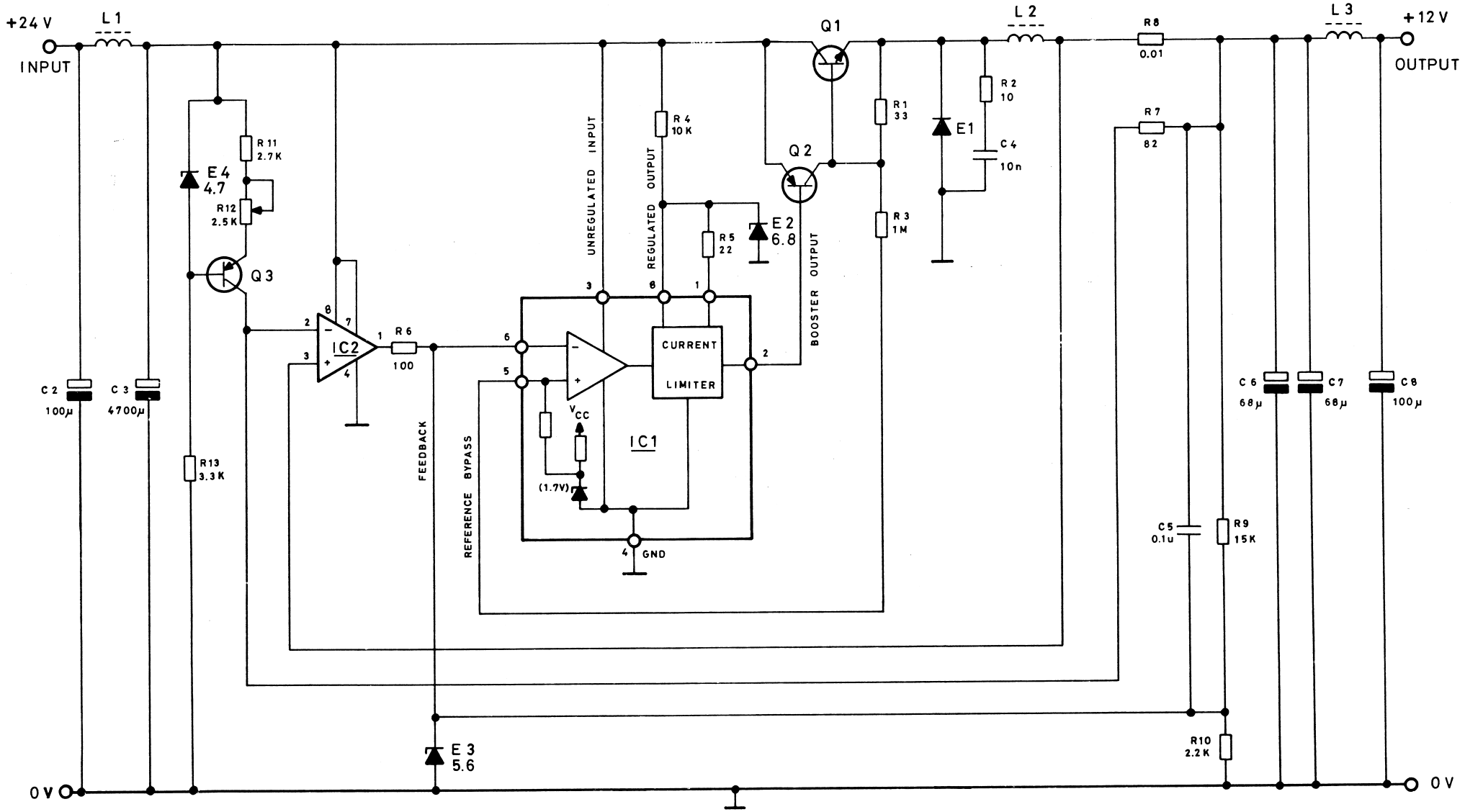
Storno

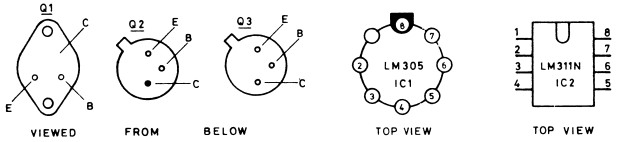
TYPE	NO.	CODE	DATA
	E7	99.5260	BYX30-200R diode
	E8	99.5260	BY30-200R diode
	E9	99.5020	1N4004 diode
	E10	99.5224	4.7V 5% zenerdiode
	Q1	99.5261	BDY91 Transistor
	Q2	99.5261	BDY91 Transistor
	Q3	99.5238	BRY39 Transistor
	Q4	99.5235	BD135 Transistor
	Q5	99.5261	BDY91 Transistor
	Q6	99.5193	2N3054 Transistor
	Q7	99.5121	BC107 Transistor

POWER SUPPLY UNIT
STRØMFORSYNING

PS701

X 401.789





POWER SUPPLY PS702

D401.870/2

Storno

TYPE	NO.	CODE	DATA	
PS702		10.2918	Power Supply	
	C2	73.5071	100µF -10 + 50% elco	40V
	C3	73.5155	4700µF- 10 + 50% elco	40V
	C4	74.5109	10µF - 20 + 50% ceram FL	63V
	C5	76.5071	0.1µF 20% polyest. FL	50V
	C6	73.5154	68µF 20% elco	16V
	C7	73.5154	68µF 20% elco	16V
	C8	73.5071	100µF - 10 + 50% elco	40V
	R1	80.5231	33Ω 5% carbon film	1/8W
	R2	80.5225	10Ω 5% "	1/8W
	R3	80.5085	1MΩ 5% "	1/10W
	R4	80.5261	10KΩ 5% "	1/8W
	R5	80.5229	22Ω 5% "	1/8W
	R6	80.5237	100Ω 5% "	1/8W
	R7	80.5236	82Ω 5% "	1/8W
	R8	178.5005	0.01Ω constantan wire,	35mm
	R9	80.5263	15KΩ 5% carbon film	1/8W
	R10	80.5253	2.2KΩ 5% "	1/8W
	R11	80.5254	2.7KΩ 5% "	1/8W
	R12	86.5043	2.5KΩ potentiometer	1/10W
	R13	80.5255	3.3KΩ 5% carbon film	1/8W
	L1	61.1235	Filter coil	
	L2	61.1236	Filter coil	
	L3	61.1236	Filter coil	
	E1	99.5289	BYX 5o-200R diode	
	E2	99.5146	6.8V 5% Zener diode	1/4W
	E3	99.5114	5.6V 5% "	1/4W
	E4	99.5224	4.7V 5% "	1/4W
	Q1	99.5261	BDY91 Transistor	
	Q2	99.5215	2N2905A Transistor	
	Q3	99.5251	BC177 Transistor	
	IC1	14.5054	LM305 Voltage regulator	
	IC2	14.5070	LM311N Voltage comparator	

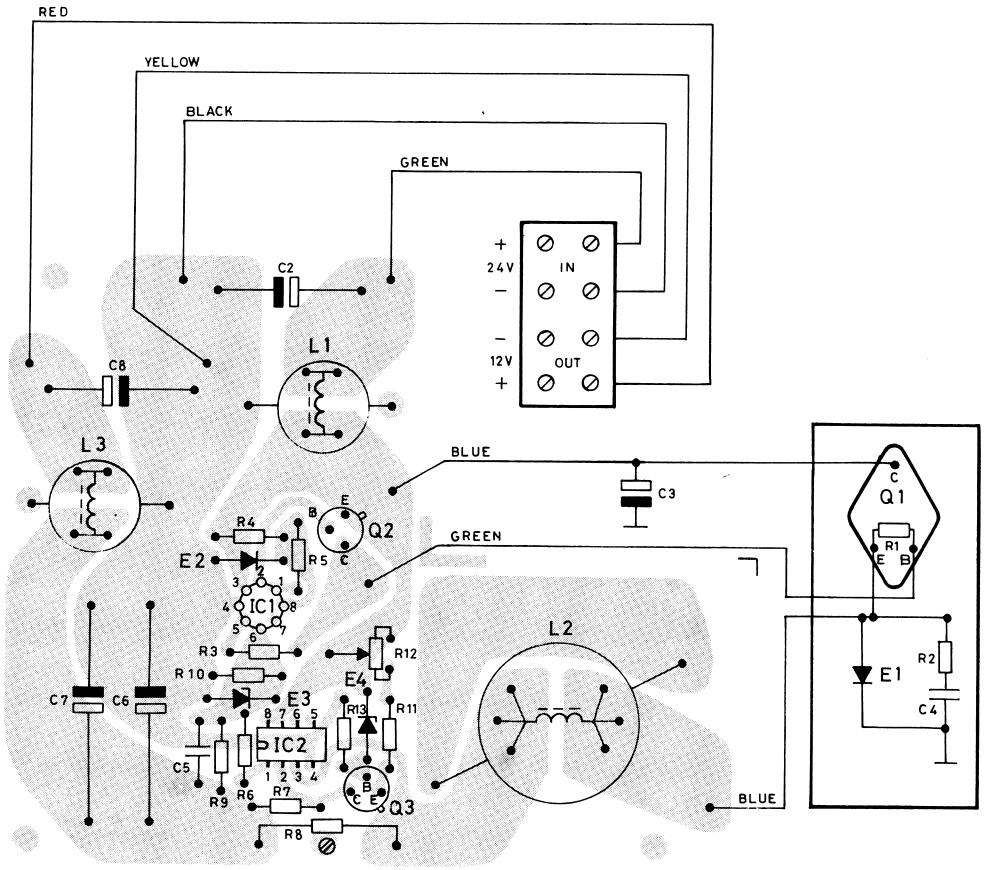
TYPE	NO.	CODE	DATA

POWER SUPPLY
STRØMFORSYNING

PS702

X401.937

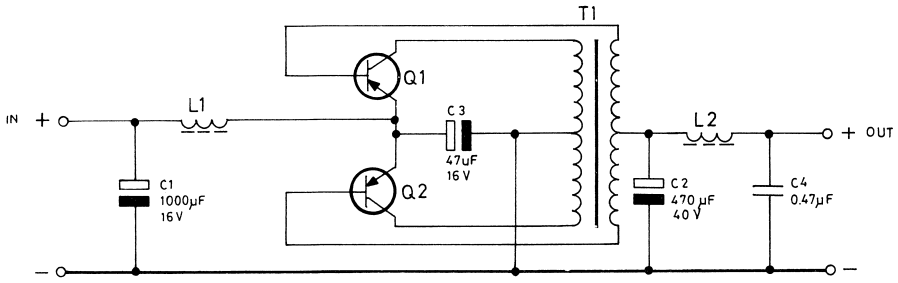
Storno

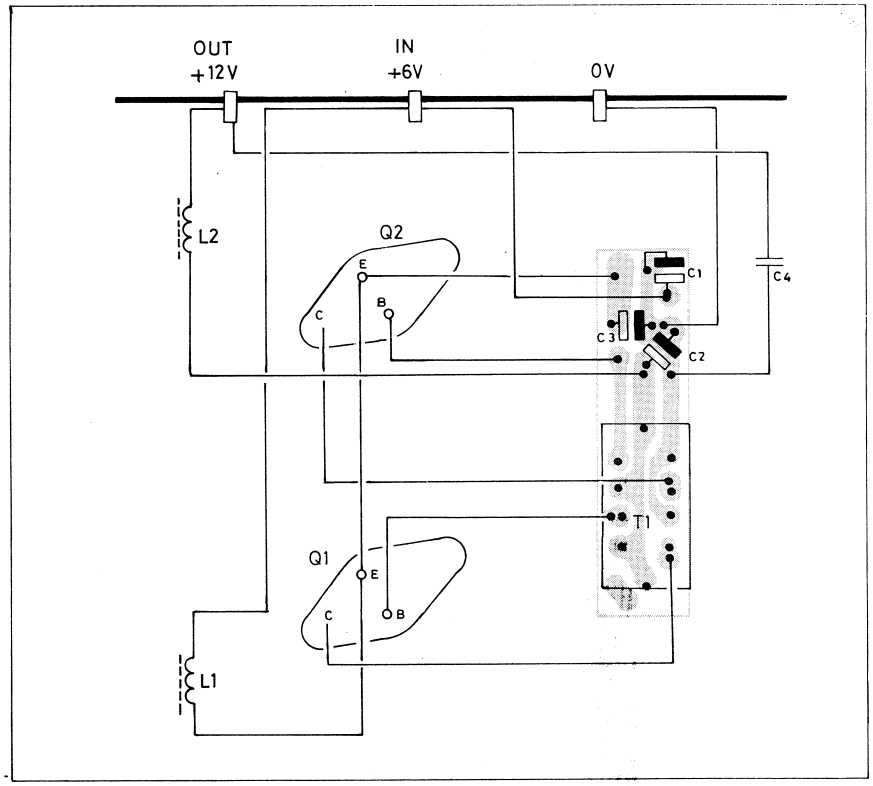


POWER SUPPLY
STRØMFORSYNING PS702

D402.096

Storno





DC CONVERTER
DC KONVERTER

TYPE 707F

D402.045

Storno

TYPE	Nº	CODE	DATA
707F			DC/DC Converter 6 V/12 V
	C1		1000 µF 16 V
	C2		470 µF 40 V
	C3		47 µF 16 V
	C4		0.47
	L1		Choke
	L2		"
	T1		Converter transformer
	Q1		AD 150 Transistor
	Q2		AD 150 "

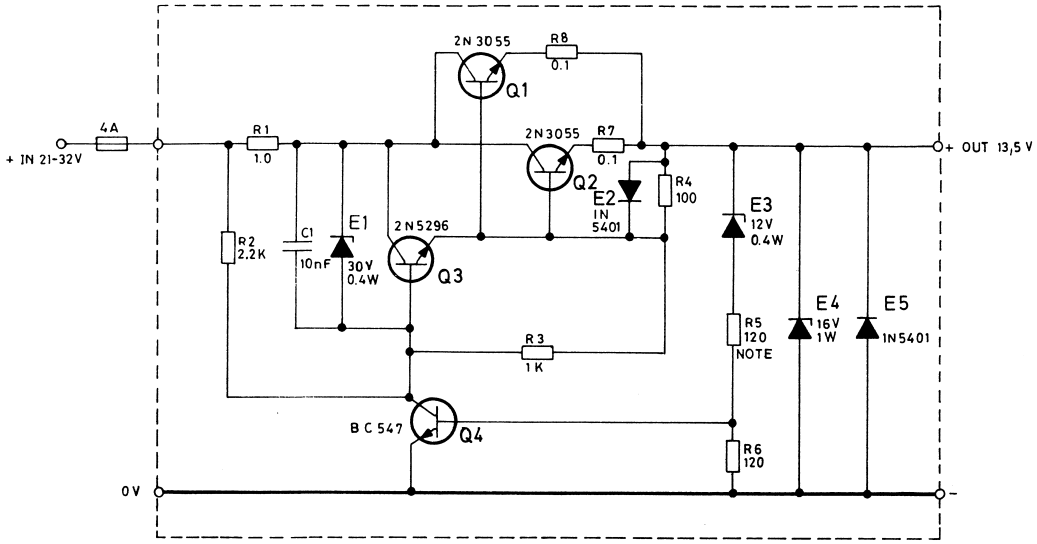
Storno

TYPE	Nº	CODE	DATA

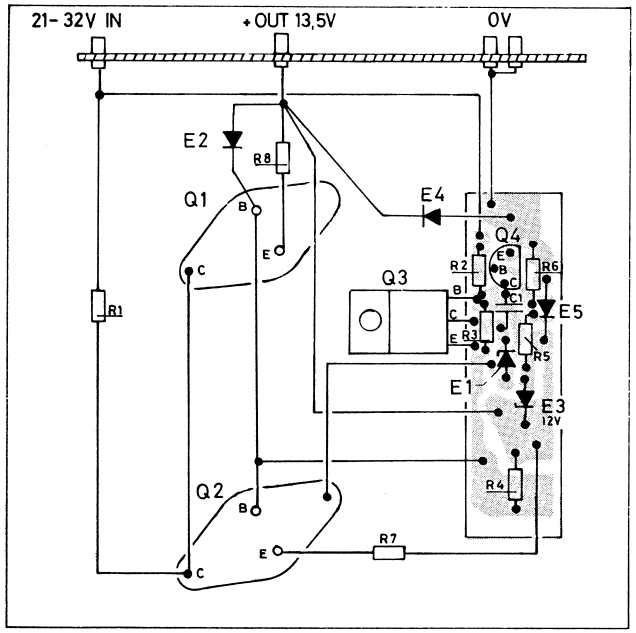
DC CONVERTER 707F

X402.396

Storno



NOTE: ADJUSTED TO 13.5V OUTPUT
JUSTERET FOR 13.5V UD
R_{min} = 120Ω
R_{max} = 330Ω



POWER SUPPLY
STRØMFORSYNING

PS704

D402.044

Storno

TYPE	Nº	CODE	DATA			
PS704		10.3049	Voltageregulator 24 V DC/13.5 V DC			
	C1		10 nF	10%	polyest.	
	R1		1 Ω		Resistance wire	
	R2	80.5453	2.2 KΩ	5%	carbon film	1/4 W
	R3	80.5449	1 KΩ	5%	" "	1/4 W
	R4	80.5437	100 Ω	5%	" "	1/4 W
	R5	80.54XX	120-330 Ω	5%	" "	1/4 W
	R6	80.5438	120 Ω	5%	" "	1/4 W
	R7		0.1 Ω		Resistance wire	
	R8		0.1 Ω		" "	
	E1		30 V		Zenerdiode	0.4 W
	E2	99.5220	1 N 5401		Diode	
	E3		12 V		Zenerdiode	0.4 W
	E4		16 V		Zenerdiode	1 W
	E5	99.5220	1 N 5401		Diode	
	Q1	99.5171	2 N 3055		Transistor	
	Q2	99.5171	2 N 3055		"	
	Q3		2 N 5296		"	
	Q4		BC 547		"	
			Fuse 4 A			

Storno

TYPE	Nº	CODE	DATA

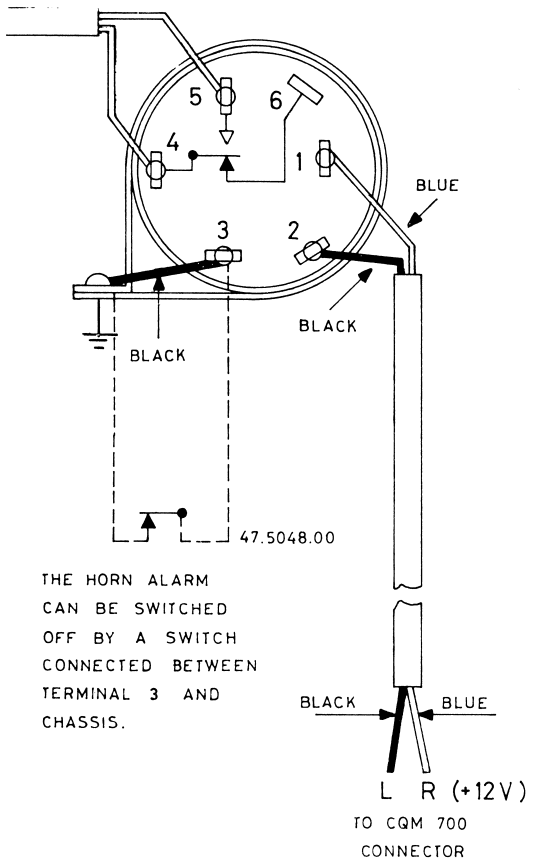
POWER SUPPLY UNIT
STRØMFORSYNING

PS704

X402.397

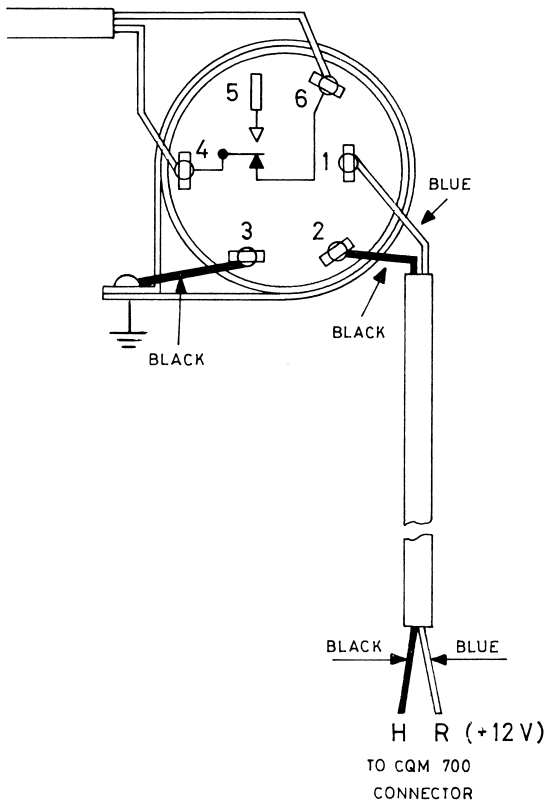
Storno

TO HORN OR BELL

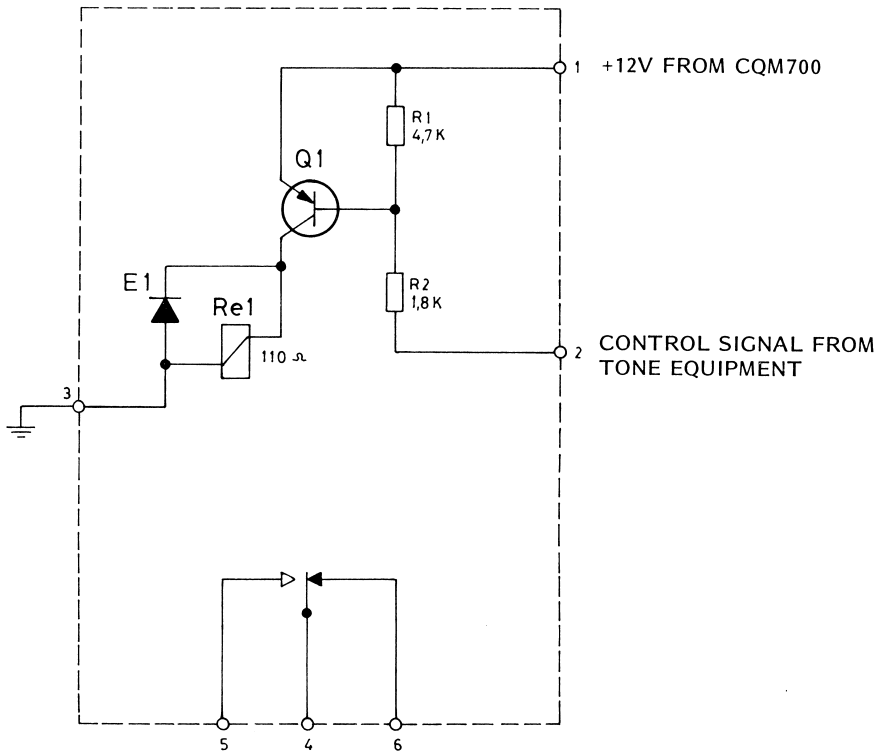


ALARM

DISCONNECTING AUTO RADIO



AUTO RADIO MUTING



INSTALLATION OF SWITCHING UNIT SU704

D402.371