

TR-0730

VHF TRANSMITTER UNIT



The Transmitter Unit is designed to transpose the television picture and sound signals to the corresponding channel of the VHF television band. It is actuated by a modulated picture and sound IF signal as well as by a 1 MHz reference square-wave signal provided TR-0770/N016 TV IF modulator. The common application of the two devices is a condition of correct operation.

According to the OIRT (CCIR D) system, a particular channel frequency is produced by a transmitter unit. On special request, transmitter units producing any other channel frequency may be manufactured. The transmitter unit produces a 0.5 W output.

The transmitter unit is a professional device. The modulated high-frequency signal is produced at a very high accuracy, with the sufficient suppression of spurious radiations. In this way, it is excellent for use as a television test transmitter. Its field of application covers also the television receiver plants, where it is used in the television monitoring and test equipment.

Technical data

Input data

Input signals

IF input
vestigial upper sideband amplitude-modulated signal (IF-AM VSB) with superposed frequency-modulated sound signal standard D, B

IF picture carrier frequency 38 MHz
IF sound carrier frequency 31.5 MHz

Input signal levels
picture carrier signal level
 $1 V_{pp}$ measured at rated
75 Ohms sync peak
picture-sound power ratio max. 5:1
level control range
min. between +1.5 and -4 dB
Input impedance 75 Ohms
Standing-wave ratio (SWR)
max. 1.3 in the 30 to 40 MHz band

Reference signal input

Input signal

1 MHz square-wave (or pulse) signal
Input signal level
 $2 V_{pp}$ measured at 75 Ohms
Input impedance 75 Ohms $\pm 10\%$

Output data

Frequency band

I. 48 to 68 MHz
II. 76 to 100 MHz
III. 174 to 230 MHz

Channel frequency

any of TV channel 1-12 (see Ordering data)

Accuracy of picture carrier

complying with 1 MHz

frequency

reference source accuracy applying
a TR-0770/N016 type IF modulator $\pm 2 \cdot 10^{-6}$
Inter-carrier frequency 6.5 MHz ± 50 Hz

Output powers

Max. picture carrier output 75 Ohms, measured
at max. 1.3 S.W.R. termination

0.5 W at sync peak

max. sound carrier output 0.25 W

picture-sound-carrier output ratio deviation
from the value set at the input signal source
(TR-0770/N016 IF modulator) max. ± 0.5 dB

Spurious radiations

Harmonic frequency level max. -60 dB

Out-of channel frequencies max. -55 dB

Combination frequency level of picture and
sound carriers in the adjacent channels
max. -40 dB

in other channels max. -60 dB

Combination frequency level in the
transmission channel max. -57 dB

Transmission features

Linearity minimum and maximum slope ratio
of modulation characteristics
better than 0.9

Differential phase distortion at 12.5/87.5%
modulation at 4.43 MHz

less than 1.5° (measured with Nyquist
demodulator)

Differential amplitude distortion at 12.5/87.5%
modulation at 4.43 MHz

less than 8% (measured with Nyquist
demodulator)

Transmission characteristic (measured at
1.05 S.W.R. termination at max. 70%
modulation) See Fig. 1.

Overall transmission characteristic (together
with the TR-0770/N016 IF modulator)
See Fig. 2.

Pulse transmission droop (measured with
Nyquist demodulator at 1.05 S.W.R.
termination with 10/70% modulation)

for 50 Hz square signal supplied with blanking
and sync signal max. 1.5%

for 15,625 Hz square signal max. 1%

Video interference level interference voltage from peak to peak as referred to black-and-white transient, measured with the Nyquist demodulator max. -43 dB
Control output power output min. 10 mW

General data

Operation time continuous
Warm-up time 30 min.
Mains voltage
110, 127, 220, 240 V
-10 to +5%/50 Hz
Power consumption max. 60 VA
Dimensions 440×132×472 mm
Mass appr. 15 kg

Permissible environmental conditions

Operating temperature +5 to +40° C
relative humidity max. 80%

Ordering data

UHF Transmitter Unit TR-0730/...
(after the fraction line, specify the required VHF channel number, e.g.
OIRT 8 TR-0730/108)

Safety specifications

In compliance with IEC 348.

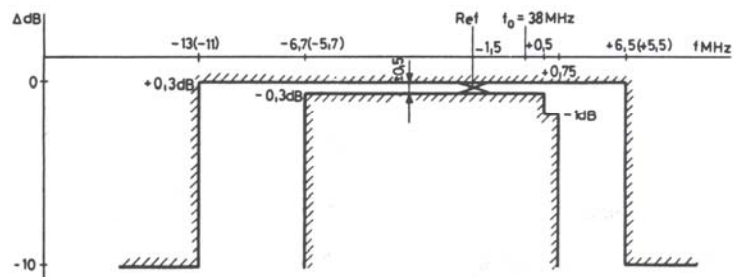


Fig. 1

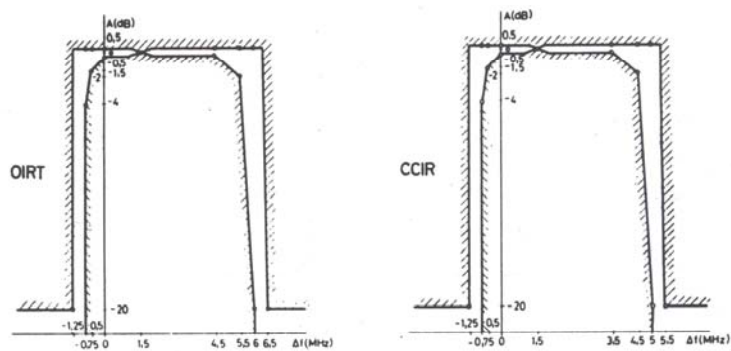


Fig. 2