

LocalNet 50/55™

Redundant Headend Switch

Overview

LocalNet 50/55 provides automatic switching from on-line to a backup frequency translator (LocalNet 50/50™) for LocalNet™, Sytek's broadband local area network. The 50/55 continuously monitors the frequency deviation and output amplitude of LocalNet 50/50 frequency translators at the headend.

Features

- Automatic or manual switching between two LocalNet 50/50 frequency translators.
- Switching can also be done remotely via remote control interface.
- Continuous monitoring of frequency deviation and output signal level of both translators.
- Meter displays frequency deviation and signal level for the on-line channel; user-switchable to display parameters for backup translator without interfering with network functions.
- Independent level adjustment for both channels to achieve proper matching and identical response.
- Indication of either on-line or backup translator exceeding

warning or fault limits independently.

- Distinct aural indication of warning and fault states. User can disable this warning after the fault condition has been detected.
- Connections are done via industry standard "F" type connectors.
- Easy removal and replacement of faulty translator without affecting network users or performance.

Description

The 50/55 continuously monitors frequency deviation and output amplitude of LocalNet 50/50 frequency translators at the headend. When either unit drifts beyond a preset specified warning level, for frequency deviation or signal level, visual and aural alarms activate. The warning is provided by a beep tone and a flashing visual indicator. When the parameters of the translator currently connected to the network exceed specified fault levels, the 50/55 automatic switch unit disconnects the failing translator from the network and connects the backup unit in its place. The switchover to the backup 50/50 unit occurs in less than 10 milliseconds.



To/From Cable Distribution Network

Common

Diplexer

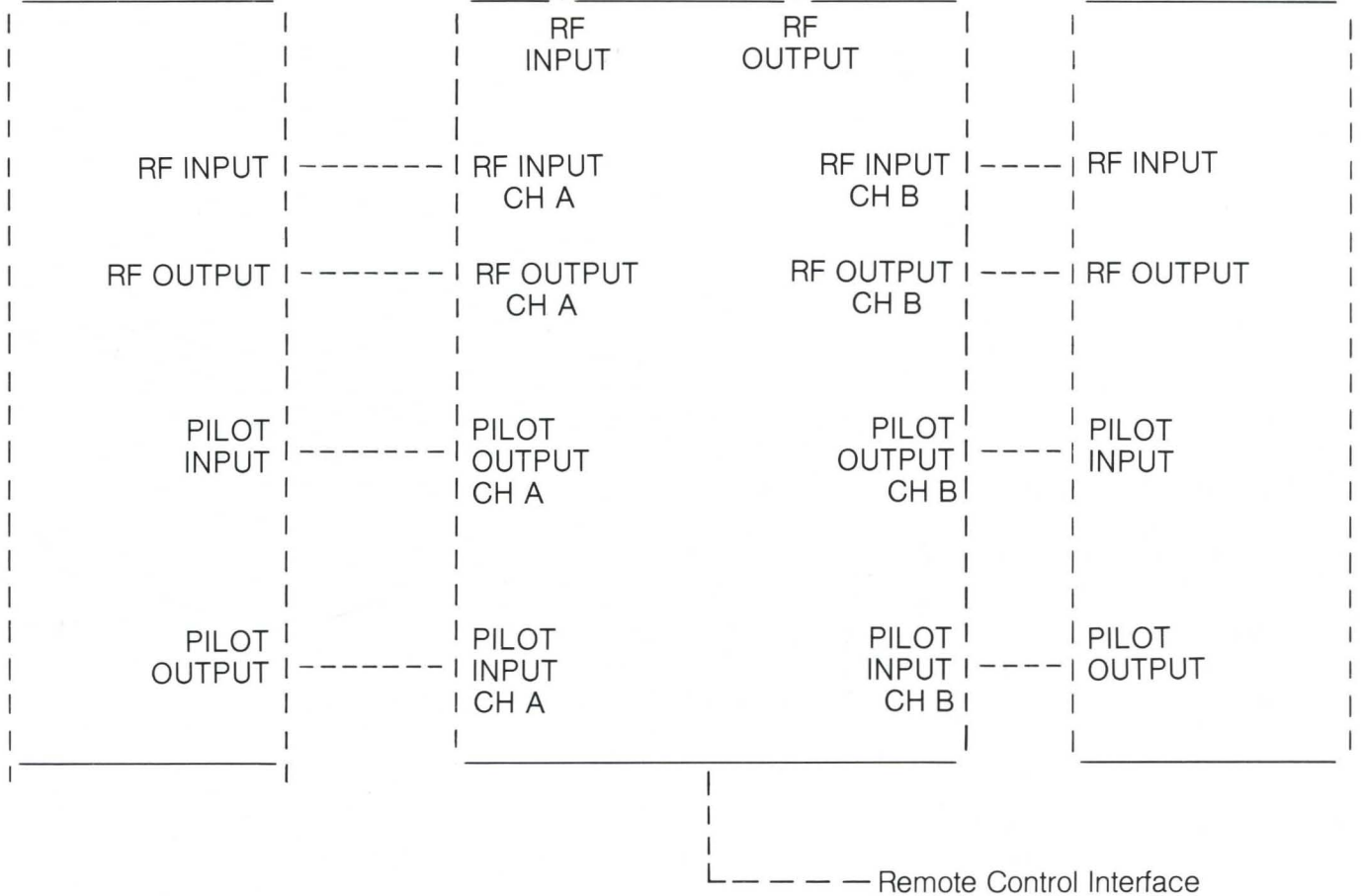
Low

High

Translator A
LocalNet 50/50

LocalNet
50/55

Translator B
LocalNet 50/50



Interconnection Between LocalNet 50/55 Switch and LocalNet 50/50 Translators

Active LocalNet users are not affected. A continuous tone and light also indicate a fault condition has been detected.

The 50/55 switch provides on-line backup for the network headend. The user can also monitor the performance of both translators without removing them from the network. A frequency deviation meter and a relative level meter can be switched to indicate true system parameters for either translator.

Nominal Settings for Warning and Fault Limits

| Parameter | Warning | Fault |
|-----------|-------------------------------|--------------------------------|
| Amplitude | 2 dB below nominal | 3 dB or more below nominal |
| Frequency | 700 Hz above or below nominal | 1000 Hz above or below nominal |

User Interface Specifications

User controls

| | |
|------------------|---------------------|
| <i>Select:</i> | <i>Check:</i> |
| Auto/Manual | Pilot Level |
| Remote/Local | Backup Unit Level & |
| On-Line (A or B) | Frequency Deviation |

Lamptest
Reset Alarm
Set Level Controls (A and B)

Indicators

Frequency Deviation Meter (± 1.2 kHz)
Level Meter (-6 dB to +1 dB)
Automatic Mode
Manual Mode
Remote Mode
Local Mode
Translator On-Line (A and B)
Translator Fault (A and B)
Translator Low (A and B)
Aural Alarm

Connectors

| | |
|----------------|--|
| RF | Industry standard type "F" connectors-Female Fittings |
| Pilot Input: | A and B |
| Pilot Output: | A and B |
| RF Input: | In, A, and B |
| RF Output: | Out, A, and B |
| AC Input | Filtered, fused, grounded, 3-wire |
| Remote Control | Standard on every unit, 15 pin subminiature D receptacle |

RF Characteristics

Pilot Output

| | |
|------------|---|
| Frequency: | 70 MHz \pm 100 Hz for standard option (other frequencies available as options). |
| Level: | -10 dBmV \pm 1 dB |

| | |
|---------------------|---|
| Impedance: | 75 ohms nominal |
| Level Adjust Range: | 15 dB in 1 dB steps (internal adjustment) |

Pilot Input

| | |
|------------|--|
| Frequency: | 226.25 MHz for standard option (other frequencies available as options). |
| Level: | +3.5 dBmV nominal |
| Impedance: | 75 ohms nominal |

RF Output

| | |
|-----------------|--|
| Frequency: | Varies depending on LocalNet 50/50 translator frequency option |
| Level: | 0 dBmV to +54 dBmV |
| Impedance: | 75 ohms nominal |
| RF switch time: | <10 msec |

RF Input

| | |
|------------|--|
| Frequency: | Varies depending on LocalNet 50/50 translator frequency option |
| Level: | -20 dBmV to +30 dBmV |
| Impedance: | 75 ohms nominal |

Frequency Stability of Pilot and Receiver Circuits

| | |
|--|----------------------------------|
| Stability with respect to time (short term): | Less than or equal to 1 ppm |
| Stability with respect to operating temperature range and input voltage range: | Less than or equal to 1.5 ppm |
| Crystal Aging: | Less than or equal to .5 ppm/yr. |

Receiver Gain Stability

| | |
|--|------------------------|
| Stability with respect to time (short term): | Less than ± 0.5 dB |
| Stability with respect to operating temperature range and input voltage range: | Less than +1 dB |

Environmental Specifications

| | |
|------------------------|-----------------------------------|
| Operating temperature: | +10° C to + 50° C |
| Storage temperature: | -40° C to + 70° C |
| Relative humidity: | Up to 95% at 45° C non-condensing |

Physical and Mechanical Specifications

Front Panel Indicators

| | |
|---------------------|--|
| Size: | 5.25" H X 16.74" W X 14.875" D |
| Weight: | 19 lbs. |
| Power requirements: | |
| Voltage/Frequency: | 115 VAC \pm 10%, 60 Hz \pm 5% 220 VAC \pm 10%, 50 Hz \pm 5% |
| Power consumption: | 60 W |
| Fusing: | 1 Amp. slo-blow for 110 VAC .5 Amp. slow-blow for 220 VAC |

Ordering Information

Frequency Group Option

| FREQUENCY OPTION | CABLE SYSTEM TYPE | PILOT FREQ (MHz) | | MATCHING TRANSLATOR (LocalNet 50/50) | |
|------------------|-------------------------------|------------------|--------|--|------------------|
| | | IN | OUT | Option | Frequency Groups |
| T31 | Midsplit (standard option) | 70 | 226.25 | T01 T02 T03 T04* T05 T06 T07 T08 T09 | J, K, A, B, C |
| T32 | Subsplit | 10 | 226.25 | T15* T16 T17 | L, M, N |
| T33 | Midsplit | 52 | 208.25 | T11 T13 | G, H |
| T34 | Midsplit | 88.150 | 244.40 | T10 T12 T14 | D, E, F |

*Standard filter groups. Non-standard filter groups are six month availability ARO. Factory approval is required for non-standard filter groups.

| Power Input Option | Description |
|--------------------|-------------------------|
| W00 | 115 VAC, 60 Hz AC Power |
| W01 | 220 VAC, 50 Hz AC Power |

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